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October 15, 2010

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## VIA EMAIL AND MESSENGER

Thomas C. Nash, Esq.  
Office of the Regional Counsel  
Region V  
United States Environmental Protection  
Agency  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Mr. Nash:

We are writing on behalf of the three performing parties, Illinois Tool Works Inc, Kelsey-Hayes and NCR ("Respondents") to invoke the "Dispute Resolution" process as described in Section XV, paragraphs 62 through 64 of the Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study ("ASAOC") executed August 10, 2006 and effective August 15, 2006, for the South Dayton Dump and Landfill Site, Moraine, Ohio ("Site"). We are invoking Dispute Resolution in response to the October 5, 2010 U.S. EPA correspondence requiring expansion of the Presumptive Remedy beyond the scope defined in the ASAOC. Respondents entered into the ASAOC based on the agreement with U.S. EPA that the Presumptive Remedy would be limited to capping to address the potential risk from direct contact with the landfill contents in the central portion of the Site ("Presumptive Remedy Area") and all other Site media and areas would be addressed through a conventional RI/FS. U.S. EPA's current position regarding extension of the Presumptive Remedy to media beyond the direct contact risk posed by the landfill material not only violates the express terms of the ASAOC, but is inconsistent with the requirements of the National Contingency Plan ("NCP") and Presumptive Remedy guidance and is arbitrary and capricious. Respondents hope to address these issues so that we may continue investigation of the Site in compliance with the terms of the ASAOC.

In correspondence dated October 5, 2010, Karen Cibulskis, U.S. EPA Remedial Project Manager informed Steve Quigley, Respondents' Project Manager with Conestoga-Rovers & Associates ("CRA") of U.S. EPA's decision to expand the application of the Presumptive Remedy beyond

that agreed to in the ASAOC to encompass groundwater and soil vapor<sup>1</sup>. This decision cited, as a basis for this change, groundwater conditions that were known at the time the parties entered into the ASAOC. Thus, U.S. EPA could have included groundwater as an element of the agreement. However, the ASAOC limits the application of the Presumptive Remedy to the direct contact area in the central portion of the Site. Specifically, the Purpose section of the Statement of Work of the ASAOC states:

Consistent with the guidance, the Respondents and U.S. EPA agree that the presumptive remedy to address the direct contact risks in this area shall be containment (i.e., a landfill cap).

The Respondents shall conduct a conventional (i.e., not streamlined) RI/FS, risk assessment and ecological assessment consistent with the requirements of this SOW for all Site areas and/or media not addressed by the Presumptive Remedy approach above, and in all Site areas and/or media where the Respondents have not clearly indicated that there is a basis for remedial action and that a Presumptive Remedy approach is appropriate. Unless otherwise agreed to by U.S. EPA, a conventional RI/FS, baseline human health risk assessment and ecological assessment shall be conducted for:

- Landfill material, surface and subsurface soil hot spots outside the Presumptive Remedy Area . . .
- Groundwater *within and outside the Presumptive Remedy Area*
- Leachate within and outside the Presumptive Remedy Area
- Landfill gas and soil vapor **within and outside the Presumptive Remedy Area**
- Surface water and sediment within and outside the Presumptive Remedy Area
- Air outside the Presumptive Remedy Area

ASAOC Scope of Work (March 13, 2006) PURPOSE section (emphasis added).

Respondents have, as provided for under the ASAOC, agreed to an expansion of the direct contact Presumptive Remedy Area , by expanding the area to be capped to include the northern portion of the Site. This expansion is based on technical data supporting the application of the

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<sup>1</sup> Letters referred to in this correspondence, along with other relevant correspondence and reports, are attached hereto for convenience.

Presumptive Remedy cap consistent with the NCP and U.S. EPA guidance. The SOW provides the **Respondents** the option to propose to expand the application of the Presumptive Remedy. In this instance, the Respondents are merely asking U.S. EPA to allow them to perform the work agreed to in the ASAOC and SOW.

U.S. EPA's position, most recently set out in the October 5 letter, requires that the Respondents expand the Presumptive Remedy to media and Site areas specifically outside the Presumptive Remedy Area, contrary to the requirements of the ASAOC and the SOW. We note that Respondents, their technical representatives and their contractor, have worked in good faith to meet U.S. EPA goals and expectations. The Respondents have compromised on significant issues and have been diligent in their efforts to work cooperatively with U.S. EPA. Despite this effort, we are now forced to initiate the dispute resolution process to address specific issues remaining.

#### ISSUE I:

#### **Respondents Did Not Agree in the ASAOC To Apply The Presumptive Remedy Beyond The Central Portion of The Landfill That Is The Source Area**

The parties engaged in lengthy and at times difficult negotiations regarding the ASAOC. The ASAOC reflects the parties' agreement to limit the application of the Presumptive Remedy to a source area comprised of approximately 33 acres in the central portion of the Site. At the time the parties negotiated the ASAOC, both U.S. EPA and Respondents were aware of soil and groundwater data indicating that other portions of the Site may require remediation, and based on this knowledge, agreed to require a conventional RI/FS for all other areas of the Site. Specifically, groundwater, soil, leachate and soil vapor were **NOT** part of the Presumptive Remedy evaluation.

In January, 2008, U.S. EPA first proposed the application of the Presumptive Remedy to the entire Site in correspondence to Mr. Quigley, the Project Manager for Respondents. *See Letter, U.S. EPA (Cibulskis) to CRA (Quigley) January 9, 2008*. In a written response to that letter, Mr. Quigley challenged the application of the Presumptive Remedy and refuted the contentions in the January correspondence. *See Letter, CRA (Quigley) to U.S. EPA (Cibulskis) April 17, 2008*. By agreement, Respondents performed remedial investigation work "before responding to U.S. EPA's presumptive remedy proposal." *Id.* In fact, Respondents never agreed to the proposal, have never "confirmed their willingness to perform additional the Work" proposed by U.S. EPA and have consistently objected to the position that there is any basis for expansion of the Presumptive Remedy beyond the agreement in the ASAOC.

Moreover, the January 9, 2008, letter sets out the following as justification for expansion of the Presumptive Remedy pursuant to the Streamlined Risk Assessment produced by U.S. EPA<sup>2</sup>:

- Prevent direct contact with *landfill contents*
- Minimize infiltration through *landfill contents* and resulting contaminant leaching to groundwater
- Control surface runoff and erosion, including erosion during flooding from the adjacent Great Miami River
- Collect and treat and/or contain contaminated groundwater and any leachate and prevent further migration from *the source area*
- Collect and treat *landfill gas*.

(Emphasis added)

This additional work relates to the direct contact Presumptive Remedy Area, and should not expand the involved media as defined in the ASAOC. Even if U.S. EPA now argues that the intent of our performance of this additional work evidences our agreement to expand the Presumptive Remedy beyond direct contact Presumptive Remedy Area, Respondents never agreed to the proposal nor indicated their intent to do so. Respondents have always intended to perform the work as required under the ASAOC and the SOW, and have worked diligently to achieve that goal.

Based on investigative work, and in response to concerns raised by U.S. EPA and Ohio EPA, Respondents agreed to expand the application of the direct contact Presumptive Remedy Area to include the northern portion of the Site. In direct contrast to this agreement that was based on data developed during the course of the remedial investigation, there has been *NO* new data that now gives rise to the application of the Presumptive Remedy to groundwater. Moreover, there is nothing that indicates the source area is generating landfill gas at levels requiring active collection.

Respondents recognize there may be some soil vapor risk associated with contaminated soil vapor, contaminated soil, and shallow groundwater contamination within and outside the Presumptive Remedy Area. This issue is separate from the potential for "landfill gas" emanating from the direct contact Presumptive Remedy Area. Given the data developed regarding the potential for soil vapor, Respondents agree that this is a priority issue for the OU2 investigation (or perhaps even ahead of the OU2 process); however, there is no basis for

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<sup>2</sup> Respondents have grave concerns regarding the January 9, 2008 Streamlined Risk Assessment. See Attachment A to Correspondence, CRA (Quigley) to U.S. EPA (Cibulskis) August 4, 2010.



including soil vapor with the Presumptive Remedy Area. Not only is application of the Presumptive Remedy to these media **NOT** part of the ASAO, it is in direct conflict with the NCP and Presumptive Remedy guidance.

The parties agreed in the ASAO to address all other media, and all areas of the Site beyond the expanded direct contact risk – Presumptive Remedy Area in OU2 using a conventional RI/FS approach. U.S. EPA cannot ignore the explicit agreement set forth in the ASAO and its own CERCLA guidance and regulations and demand site-wide application of the Presumptive Remedy.

At the time U.S. EPA and Respondents were negotiating the scope of the ASAO, all were aware of the groundwater contamination at the Site; however, the idea of expanding the Presumptive Remedy beyond the direct contact source area was not included in the agreement. At the time of negotiation, it was suggested that Respondents might want to contemplate such an option, but it was not required, nor did Respondents believe it appropriate. Although raised by U.S. EPA in the course of addressing the streamlined RI/FS, Respondents consistently asserted their position that such an expansion of the Presumptive Remedy Area was not acceptable or supported. It was not until February, 2010 that U.S. EPA introduced it as an essential element of the FS, at which time Respondents again voiced their objections.

U.S. EPA cites “Task 6” of the Scope of Work to establish a basis for expansion of the Presumptive Remedy. Task 6 refers to the requirements of the conventional FS, and not the streamlined FS being performed for consideration of Presumptive Remedy options. Task 6 is specific regarding its application to “other Site areas and/or media in which the risk assessment (streamlined or conventional) indicates that **remedial action is clearly warranted and that a Presumptive Remedy approach is appropriate shall be described.** (emphasis added). While U.S. EPA relies on this very same language to support its insistence on a containment remedy for groundwater, it misinterprets the clear meaning of this paragraph. Under a plain reading of this provision, it is necessary to determine **both** that remedial action is clearly warranted and that the Presumptive Remedy is the appropriate means of implementing that remedy.

Respondents have expressed a willingness to perform the work committed to in the ASAO, which includes a conventional RI/FS for all areas beyond the direct contact Presumptive Remedy Area of the Site. Thus, Respondents intend to comply with the ASAO and investigate fully both groundwater and soil vapor in a manner that complies with CERCLA and is consistent with the NCP. Neither U.S. EPA nor Respondents have identified any immediate risk to human health or the environment associated with the groundwater. Groundwater under this Site is appropriately addressed through conventional CERCLA investigation and remedial options as part of OU2.

## ISSUE II:

**Extension of the Presumptive Remedy Beyond The Source Area Is Not Supported By the Guidance Or The National Contingency Plan**

According to U.S. EPA guidance, containment as a Presumptive Remedy is appropriate only in certain circumstances, and is used to control wastes in the source area. Section 300.430(a)(iii)(B) of the NCP contains the expectation that engineering controls, such as containment, will be used for waste that poses a relatively low long-term threat where treatment is impracticable. In cases where treatment is impracticable, U.S. EPA generally considers containment to be the appropriate response action, or the "presumptive remedy," for the source areas of municipal landfill sites.

<http://www.epa.gov/superfund/policy/remedy/presump/clms.htm>.

Here, where treatment for shallow groundwater is not yet determined to be impracticable, the guidance does not support application of the Presumptive Remedy. A primary basis identified for application of the Presumptive Remedy for groundwater where treatment is impracticable is to use containment as an appropriate method to address the contamination. In this case, there is no demonstration that treatment is impracticable for shallow groundwater and thus, no basis for application of the Presumptive Remedy. Respondents have offered to investigate the extent of contamination in order to complete *in-situ* treatment of shallow groundwater in select areas of the Site, but U.S. EPA recently rejected the proposed work after an initial approval of the investigative technique.

Finally, a containment remedy for shallow groundwater presents significant technical issues given the high permeability of the sand and gravel aquifer and deeper regional groundwater impacts not associated with the Site. As noted above, containment is considered appropriate only where treatment is deemed to be impracticable. At this site containment is an impracticable remedy. Moreover, groundwater is very specifically excluded from the Presumptive Remedy application, both in the source area and beyond by the explicit terms of the ASAO and SOW, and groundwater is specifically addressed in the conventional RI/FS. Thus, Respondents request that U.S. EPA adhere to the elements of the ASAO for Site investigation and remedy selection.

## ISSUE III

**Everything Other Than the Direct Contact Risk Addressed Through The Presumptive Remedy Cap Will be Addressed in OU2**

Pursuant to the terms of the ASAO, the conventional RI/FS requires us to fully investigate the remainder of the Site and all other area and media both within and outside the Presumptive Remedy Area. As mentioned previously, soil vapor can be addressed as part of or even ahead of OU2; groundwater also would be part of OU2, and landfill gas will either be addressed as part of

the cap design or in OU2 based on the guidance. Respondents do not suggest that we believe Site data warrants inaction for groundwater. In fact, we have proposed an expedited investigation of MW-210 along with the potential for developing a treatment plan ahead of the OU2 RI/FS Work Plan. All issues, evaluation of potential risks and appropriate remedial alternatives are planned for inclusion in the conventional RI/FS as part of OU2.

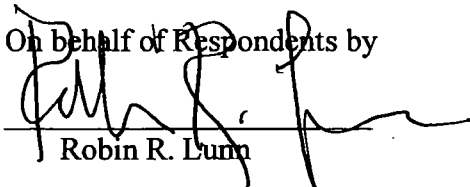
### **Conclusion**

Respondents are committed to fulfilling their obligations under the ASAOC and to implementing the Presumptive Remedy for the direct contact risk as anticipated under the ASAOC. U.S. EPA's response to the draft RI/FS and the parties' subsequent communications have confirmed that U.S. EPA is demanding revisions of the FS which are inconsistent with the ASAOC, demanding implementation of a "presumptive remedy" for soil vapor and groundwater containment prior to the completion of the OU2 RI/FS. This attempt to reconstitute the requirements of the ASAOC and to expand the application of the Presumptive Remedy to additional media is arbitrary, capricious and inconsistent with the NCP and CERCLA guidance. Respondents respectfully request that U.S. EPA resolve this dispute and confirm that the Respondents should proceed to complete the FS consistent with the terms of the ASAOC, to implement the Presumptive Remedy to limit direct contact risk in the central landfill area (OU1) consistent with the parties recent discussions and exchange of correspondence, to complete the OU2 RI/FS process consistent with the ASAOC to address all other media and to develop the final RI/FS report to allow Respondents and U.S. EPA to evaluate necessary and appropriate site-wide remedies. Respondents believe it is essential that the U.S. EPA recognize and confirm that groundwater containment and soil vapor remediation are not properly addressed as part of the Presumptive Remedy for OU1 and that these issues will be addressed in OU2 consistent with the ASAOC and the agreed SOW.

Respondents respectfully request an opportunity to meet with U.S. EPA to present additional information to resolve these issues. Respondents further suggest that they be permitted to proceed with addressing the Presumptive Remedy Area and with scoping of the work plan for OU2.

Very truly yours,

On behalf of Respondents by



Robin R. Lunn

RRL/dm

cc: Wendy Carney, EPA  
Matt Justice, Ohio EPA  
Ken Brown, ITW  
Jim Campbell, EMI  
Chris Athmer, Terran  
Karen Mignone, Verrill Dana  
Tim Hoffman, Dinsmore & Shohl  
Kirk Marty, Shook, Hardy & Bacon  
Karen Cibulskis, EPA

Tim Prendiville, EPA  
Larry Kyte, EPA  
Scott Blackhurst, Kelsey Hayes  
John Hartje, NCR  
Paul Jack, Castle Bay  
Kelly Smith, Terran  
Wray Blattner, Thompson Hine  
Brock Wanless, ITW

# Index of Documents Attached to Performing Respondents' 10-15-2010 letter to USEPA

1. USEPA Comments on draft RI/FS Work Plan - letter only, 2008-01-09
2. Respondents' Letter describing how data will be used in the FS, 2008-04-17
3. Respondents' Letter re: Consistency of letter work plans with ASAO, 2008-04-17
4. FS Submission Schedule Summary, 2009-05-28
5. Respondents' FS Approach, 2010-01-21
6. USEPA Reply to Respondents 2010-01-21 letter, 2010-02-17
7. Revised FS Scope Letter, 2010-04-01
8. USEPA Comments on OU1 FS - Cover letter only, 2010-07-07
9. Respondents Alternative Approach for FS, 2010-08-04
10. USEPA Response to 2010-07-26 letter, 2010-08-09
11. Respondents Alternative Approach for FS, 2010-08-31
12. USEPA Response to 2010-08-31 letter, 2010-09-10
13. Respondents' Response to USEPA's 2010-09-10 letter, 2010-09-17
14. Respondents Letter to Office of Regional Counsel (note: attachments removed since they are already present in this compilation), 2010-09-23
15. USEPA Response to 2010-09-17 letter, 2010-10-05



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
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CHICAGO, IL 60604-3590

2/11/08  
dpc

JAN 10 2008

SENT VIA FEDEX

January 9, 2008

REPLY TO THE ATTENTION OF.

Steve Quigley, P.E.  
Principal-in-Charge/Project Manager  
Conestoga-Rovers & Associates Ltd. (CRA)  
651 Colby Drive  
Waterloo, Ontario N2V 1C2

RE: U.S. EPA Comments on Remedial Investigation/Feasibility Study Work Plan, U.S. EPA's Streamlined Risk Assessment, and Proposal for Streamlined Remedial Investigation/Feasibility Study for South Dayton Dump and Landfill Site, Moraine, Ohio

Dear Mr. Quigley:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of Conestoga-Rovers & Associates (CRA) Remedial Investigation/Feasibility Study (RI/FS) Work Plan for the South Dayton Dump and Landfill (SDDL) Site in Moraine, Ohio.

Unfortunately, the RI/FS Work Plan contains a significant number of substantial deficiencies and U.S. EPA cannot approve the RI/FS Work Plan at this time.

Many of the deficiencies in the RI/FS Work Plan concern comments U.S. EPA provided to CRA on CRA's 2005 Scoping Report and CRA's 2006 Preliminary Remedial Action Objectives Technical Memorandum (PRAO Tech Memo). In general, the RI/FS Work Plan:

1. Does not address RI/FS Scope of Work (SOW) objectives and requirements;
2. Does not follow the data objectives quality process to develop the scope of the RI/FS and field work; and
3. Presents inaccurate background information and disregards Site findings.

U.S. EPA's comments on the RI/FS Work Plan are in Attachment 1.

U.S. EPA is very concerned about the substantial number of comments U.S. EPA continues to have on CRA Site-related documents (90 comments on

Scoping Report, 125 comments on PRAO Tech Memo and 343 comments on RI/FS Work Plan). This poses a significant impediment to Site progress.

Based on the scope of U.S. EPA's comments on the RI/FS Work Plan, U.S. EPA began to consider whether an alternate approach to address the SDDL Site might be more appropriate. Specifically, U.S. EPA began to consider whether U.S. EPA's presumptive remedy for municipal landfill sites (i.e., containment of the source area, including, but not limited to, landfill contents and on-Site groundwater) could be applied to the SDDL.

U.S. EPA evaluated whether a streamlined risk assessment (SRA) could be conducted for the Site, and whether, consistent with U.S. EPA policy and guidance, the SRA would be able to clearly indicate whether remedial action (i.e., a containment remedy) is warranted at the Site (see *Presumptive Remedy for CERCLA Municipal Landfill Sites*, Office of Solid Waste and Emergency Response Directive 9355.0-49FS).

The substantial amount of information, data, tables and figures in CRA's RI/FS Work Plan (in conjunction with U.S. EPA's comments on the RI/FS Work Plan) allowed U.S. EPA to conduct a SRA for the landfill source area of the Site. U.S. EPA's SRA addresses, but is not limited to, landfill contents and on-Site groundwater. A copy of U.S. EPA's SRA is in Attachment 2.

U.S. EPA's SRA indicates existing groundwater, soil and sediment data demonstrate the Site poses an unacceptable risk to human health and the environment and clearly warrants remedial action (i.e., a containment remedy). Consistent with U.S. EPA guidance, the SRA provides clear justification to implement response actions to address the following pathways at the Site:

- Prevent direct contact with landfill contents
- Minimize infiltration through landfill contents and resulting contaminant leaching to groundwater
- Control surface water runoff and erosion, including erosion during flooding from the adjacent Great Miami River
- Collect and treat and/or contain contaminated groundwater and any leachate and prevent further migration from the source area
- Control and treat landfill gas if necessary.

Based on the SRA, U.S. EPA believes there is sufficient information in CRA's RI/FS Work Plan, U.S. EPA's review comments and the SRA to streamline the RI/FS for the landfill source area of the Site (Operable Unit 1 or OU1). At this time, U.S. EPA respectfully requests CRA consider U.S. EPA's streamlining approach for the Site, and move forward with preparing a streamlined RI/FS report to address the risks identified by the SRA.

U.S. EPA expects CRA's streamlined RI report for OU1 would be very similar to CRA's RI/FS Work Plan Sections 1.0 (Introduction) to 3.2.3 (Exposure Pathways), revised to address U.S. EPA's comments on the RI/FS Work Plan (as superseded by the SRA); and would include U.S. EPA's SRA.

U.S. EPA expects CRA's streamlined FS for OU1 would then evaluate presumptive remedy alternatives to:

- Contain landfill contents to: prevent direct contact with landfilled materials; minimize infiltration and resultant contaminant leaching to groundwater; and prevent landfilled contents and contaminants from being transported to the Quarry Pond, to the Great Miami River and 100-year floodplain areas of the Great Miami River, and to any other areas outside the landfill. This will include: landfill contents throughout the 80-acre Site (as defined in the RI/FS Statement of Work) including Site areas with buildings and business operations and the Quarry Pond; landfill contents in off-Site areas - e.g., Lot 3278, Lot 3056, Lot 3057 and Lot 3275; and landfill contents in any other possible off-Site areas.
- Prevent exposure to any contamination in on-Site Valley Asphalt wells (one reported to be used as potable water supply) that exceeds Maximum Contaminant Levels and/or poses a cumulative cancer risk greater than  $1 \times 10^{-4}$  or a noncancer hazard index greater than 1.0 based on reasonable maximum industrial exposure.
- Contain groundwater contamination at the perimeter of the landfill that exceeds Maximum Contaminant Levels and/or poses a cumulative cancer risk greater than  $1 \times 10^{-4}$  and/or a noncancer hazard index greater than 1.0 based on reasonable maximum residential exposure.
- Contain leachate (if necessary)
- Prevent exposure to unacceptable levels of landfill/soil gas and unacceptable levels of soil vapors from groundwater within/beneath the landfill. This will include: areas where receptors may be exposed to landfill/soil gas and soil vapors from groundwater within the landfilled area; containing landfill/soil gas and soil vapors from groundwater at the perimeter of the landfill; and preventing landfill/gas soil vapors from accumulating at unacceptable levels under the landfill cap.

Consistent with U.S. EPA policy and guidance, CRA would then address off-Site areas not addressed by the presumptive remedy (Operable Unit 2 or OU2) through a conventional (i.e., not streamlined) RI/FS, Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA). CRA's RI/FS,



HHRA and ERA for OU2 would be consistent with the RI/FS SOW and would address:

- Soil contamination in areas outside the landfill (e.g., Great Miami River floodplain/recreational areas, properties surrounding Site)
- Surface water and sediment contamination in the Great Miami River, including sediment contamination in areas adjacent to the Site and other areas of the Great Miami River that are or may be impacted by the Site (e.g., groundwater discharge areas)
- Surface water and sediment contamination in any other surface water bodies or wetlands that are or may be impacted by the Site (e.g., through past erosion/overland flow, sediment transport, groundwater discharge)
- Groundwater contamination outside the perimeter of the landfill, including exposure to any soil vapors from groundwater
- Ecological investigations (areas outside landfill)

Consistent with U.S. EPA's presumptive remedy policy and guidance, U.S. EPA respectfully proposes the Respondents conduct the following Work in lieu of the extensive field work proposed in CRA's RI/FS Work Plan that is no longer necessary:

1. Revise Sections 1.0 (Introduction) to 3.2.3 (Exposure Pathways) of CRA's RI/FS Work Plan to address U.S. EPA's comments on the RI/FS Work Plan (as superseded by the SRA). Submit this document to U.S. EPA and the Ohio Environmental Protection Agency (OEPA) as the Streamlined OU1 RI Report (OU1 RI). Incorporate U.S. EPA's attached OU1 SRA into the OU1 RI, and describe the OU1 presumptive remedy RI/FS approach and the OU2 RI/FS approach described in this letter in the OU1 RI. Proposed submission date: 30 days after Respondents' acceptance of proposed Work.
2. Conduct a streamlined FS to evaluate presumptive remedy alternatives for the source control measures and other OU1 remedial measures described in this letter and U.S. EPA's SRA. Submit the Streamlined OU1 FS Report to U.S. EPA and OEPA for review/approval. Proposed submission date: 90 days after Respondents' acceptance of proposed Work.
3. Prepare and implement a RI/FS OU2 Work Plan, Field Sampling Plan (FSP), Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP) to address OU2 investigation tasks described in this letter consistent with RI/FS SOW requirements and objectives, U.S. EPA's comments on CRA's RI/FS Work Plan (as superseded by the SRA), and U.S. EPA's comments on CRA's FSP, QAPP and HASP (to be submitted under separate cover). The OU2 Work Plan must consider existing sediment data which already indicates sediment in the Great Miami River

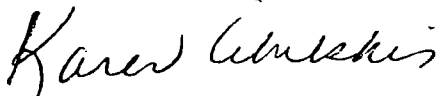
adjacent to the Site exceeds Probable Effects Concentrations and indicates more thorough sampling and ecological investigation in the river is warranted. The OU2 Work Plan must also consider that chemical concentrations in 100 year floodplain soils protective of human health may exceed chemical concentrations protective for sediments, and may indicate these soils need to be prevented from being transported into the river through erosion and flooding. The OU2 Work Plan must also discuss the elements of the OU1 presumptive remedy described in this letter to explain the focus of the OU2 investigation. Proposed submission date: 120 days after Respondents' acceptance of proposed Work.

U.S. EPA sincerely appreciates CRA's efforts on the SDDL Site and looks forward to continuing to work with CRA, Illinois Tool Works (ITW) and the other Respondents toward completing a streamlined RI/FS for OU1 and the RI/FS for OU2 at the Site.

Section IX, Work to Be Performed of the Administrative Settlement Agreement and Order on Consent gives the Respondents 7 days to confirm their willingness to perform additional Work proposed by U.S. EPA in writing. However, U.S. EPA recognizes that 7 days may not provide CRA and the Respondents with adequate time to review U.S. EPA's SRA and consider U.S. EPA's proposal. During this time U.S. EPA would also like to meet with CRA and the Respondents to discuss the proposed OU1 RI/FS, a RI/FS for OU2 and U.S. EPA's comments on CRA's RI/FS Work Plan. As such, U.S. EPA is willing to extend this time frame for an additional 21 days. Please confirm the Respondents' willingness to perform U.S. EPA's proposed Work for OU1 and OU2 described above in writing on or before February 11, 2008. Based on the circumstances, and, at the Respondents' request, U.S. EPA may also agree to extend this time frame for a reasonable amount of additional time.

U.S. EPA looks forward to meeting with CRA, ITW and the other Respondents to discuss the SDDL and the direction of the Site. Please contact me at 312-886-1843 or via email at [cibulskis.karen@epa.gov](mailto:cibulskis.karen@epa.gov) at your earliest convenience to arrange for a meeting. If you have any legal questions, please direct them to Tom Nash, Associate Regional Counsel at 312-886-0552 or via email at [nash.thomas@epa.gov](mailto:nash.thomas@epa.gov).

Sincerely,



Karen Cibulskis  
Remedial Project Manager

cc: Ken Brown, ITW (via FedEx)  
Matt Justice, OEPA (Cover Letter and Attachment 1) ✓

Matt Mankowski, SR-6J  
Tom Nash, C-14J  
Luanne Vanderpool, SRF-5J  
Afif Marouf, SR-6J  
David Brauner, SR-6J  
Eric Kroger, CH2M Hill (via FedEx)



**CONESTOGA-ROVERS  
& ASSOCIATES**

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April 17, 2008

Reference No. 038443

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency - Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Integration of Investigation Results into the Feasibility Study  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

This letter and the enclosed tables describe how the Remedial Investigation data collected in 2008 will be used in a Feasibility Study (FS) for the Site. The PRP Group submitted a draft Remedial Investigation/Feasibility Study (RI/FS) Work Plan to United States Environmental Protection Agency (USEPA) in January 2007. USEPA provided the PRP Group with comments on the draft RI/FS Work Plan. The PRP Group and USEPA met in January, February, and March 2008 to discuss USEPA's proposal to implement a presumptive remedy for parcels within the boundary of the Site and complete a conventional RI/FS for off-Site areas potentially impacted by the Site. As a result of those discussions, the PRP Group submitted a series of Letter Work Plans describing Site investigation work to be undertaken.

The following Letter Work Plans have been submitted to the USEPA:

- Land Survey, Bathymetry Survey, and Geophysical Investigation Letter Work Plan (CRA, March 14, 2008);
- Leachate Seep Investigation Letter Work Plan (CRA, March 13, 2008);
- Test Pit/Test Trench Investigation Letter Work Plan (CRA, March 17, 2008);
- Landfill Gas/Soil Vapor Investigation Letter Work Plan (CRA, March 14, 2008); and
- Groundwater Letter Work Plan (CRA, March 12, 2008).

The investigative tasks are discussed in detail in the individual Letter Work Plans.

CRA has prepared a series of tables that present the objectives described in each Letter Work Plan, a summary of the work to be completed under each Letter Work Plan, and a listing of how the resultant data will be used in a FS. The tables are as follows:

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April 17, 2008

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Reference No. 038443

- Table 1 - Land Survey, Bathymetry Survey, and Geophysical Investigation;
- Table 2 - Leachate Seep Investigation;
- Table 3 - Test Pit/Test Trench Investigation;
- Table 4 - Landfill Gas/Soil Vapor Investigation; and
- Table 5 - Groundwater Investigation.

The Potentially Responsible Parties will use these tables in the formulation and analysis of alternatives in a FS.

Please call the undersigned if you have any questions or comments.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Stephen M. Quigley

AL/ca/33

Encl.

- c.c. Matt Mankowski, USEPA (PDF)  
Matt Justice, Ohio EPA (PDF)  
Eric Kröger, CH2M Hill (PDF)  
Scott Blackhurst, Kelsey Hayes Company (PDF)  
Wray Blattner, Thompson Hine (PDF)  
Ken Brown, ITW (PDF)  
Jim Campbell, Engineering Management Inc. (PDF)  
Tim Hoffman, Representing Kathryn Boesch and Margaret Grillot (PDF)  
Paul Jack, Castle Bay (PDF)  
Robin Lunn, Mayer Brown (PDF)  
Roger McCreedy, NCR (PDF)  
Karen Mignone, Pepe & Hazard (PDF)  
Adam Loney, CRA (PDF)

EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER

TABLE 1

**LAND SURVEY, BATHYMETRY SURVEY, AND GEOPHYSICAL INVESTIGATION  
SOUTH DAYTON DUMP & LANDFILL SITE  
MORaine, OHIO**

<i>Letter Work Plan Objective</i>	<i>Scope of Work</i>	<i>Information Gathered</i>	<i>Data Use in FS<sup>(3)</sup></i>
Conduct aerial and topographical survey of the entire Site and create an accurate topographical map	<ul style="list-style-type: none"> <li>Survey Site features using aerial techniques</li> <li>Survey Site topography using an Ohio-registered land surveyor</li> </ul>	<ul style="list-style-type: none"> <li>Surface contour information</li> <li>Current accurate topography</li> </ul>	<ul style="list-style-type: none"> <li>Establish slopes and grades for cap configurations</li> <li>Determine cut and fill balance for consolidation options</li> <li>Evaluate drainage design alternatives</li> </ul>
Survey locations of existing structures and features	<ul style="list-style-type: none"> <li>Survey relative to the Ohio State Plane Grid Coordinates and NAD 83/NAVD 88<sup>(1)</sup></li> <li>Verify locations against the closest USGS <sup>(2)</sup> benchmark monuments</li> <li>Survey horizontal locations to the nearest 0.5-foot accuracy</li> <li>Survey elevations (other than tops of monitoring well risers) to the nearest 0.1-foot accuracy</li> <li>Survey monitoring well risers to the nearest 0.01-foot accuracy</li> </ul>	<ul style="list-style-type: none"> <li>Horizontal and Vertical locations of all objects</li> </ul>	<ul style="list-style-type: none"> <li>See above</li> </ul>
Establish benchmarks for future surveying	<ul style="list-style-type: none"> <li>Establish settlement monuments across the Site</li> </ul>	<ul style="list-style-type: none"> <li>Five settlement monuments</li> </ul>	<ul style="list-style-type: none"> <li>Monitor landfill settlement</li> </ul>
Complete surficial metallic debris collection and staging	<ul style="list-style-type: none"> <li>Collect surficial metallic debris</li> <li>Relocate empty drums/drum carcasses to a central staging area</li> <li>Intact drums in poor condition to be left in place</li> <li>Complete geophysical investigation of staging area prior to construction</li> <li>Install a containment berm and a 20-mil synthetic liner for leak and spill protection</li> <li>Cover containment berm contents with polyethylene sheeting to prevent accumulation of storm water</li> </ul>	<ul style="list-style-type: none"> <li>Location of all surficial metal debris and intact drums on Site</li> </ul>	<ul style="list-style-type: none"> <li>Assess feasibility and benefits of consolidation</li> </ul>

**TABLE 1**  
**LAND SURVEY, BATHYMETRY SURVEY, AND GEOPHYSICAL INVESTIGATION**  
**SOUTH DAYTON DUMP & LANDFILL SITE**  
**MORaine, OHIO**

<i>Letter Work Plan Objective</i>	<i>Scope of Work</i>	<i>Information Gathered</i>	<i>Data Use in FS<sup>(3)</sup></i>
Complete a bathymetry survey of the Quarry Pond; generate topographical information for the bottom of the Quarry Pond	· Collect data with an echosounder attached to a GPS receiver	· Sufficient data to complete a topographic map of the Quarry Pond	· Use results to complete an electromagnetic (EM) or magnetometer survey of the Quarry Pond to identify metallic anomalies on the bottom of the Quarry Pond · Assess type of waste · Assess extent of waste · Develop cap configuration alternatives
Complete a geophysical survey to identify buried metal and objects at the Site and identify Site areas which may require additional investigation	· Use magnetic, EM and ground penetrating radar (GPR) techniques to identify both ferrous and non-ferrous buried metal up to 20 feet below ground surface	· Location of buried metals and objects at the Site, including buried conduits and pipelines	· Use to identify areas which may require additional information or contribute to uncertainty in FS · Determine location of test pits and trenches, which will be used to determine waste boundaries and characteristics · Assess feasibility and benefits of consolidation

**Notes:**

<sup>(1)</sup> NAD 83/NAD 88 - North American Datum of 1983 / North American Vertical Datum of 1988

<sup>(2)</sup> USGS - United States Geological Study

<sup>(3)</sup> FS - Feasibility Study

TABLE 2

**LEACHATE SEEP INVESTIGATION  
SOUTH DAYTON DUMP & LANDFILL SITE  
MORaine, OHIO**

<i>Letter Work Plan Objective</i>	<i>Scope of Work</i>	<i>Information Gathered</i>	<i>Data Use in FS<sup>(1)</sup></i>
Complete a seep inspection to identify seeps	<ul style="list-style-type: none"> <li>Inspect the entire embankment surface</li> <li>Complete a photographic log</li> </ul>	<ul style="list-style-type: none"> <li>Evidence of groundwater or leachate discharge</li> <li>Presence of erosion rills, areas of surface staining and/or stressed vegetation, and wet or saturated areas resulting from seeping liquid</li> </ul>	<ul style="list-style-type: none"> <li>Determine locations where leachate collection may be required</li> <li>Aid in leachate volume estimates</li> <li>Assess active or potential impact to groundwater</li> </ul>
Characterize seeps observed along Site embankments	<ul style="list-style-type: none"> <li>If an active seep is observed, liquid sampling will be attempted, and the sample will be analyzed</li> <li>If there is not enough liquid to fill sample jars, a sample of the surface soil will be collected, and analyzed</li> <li>If no active seep is observed but indirect evidence is seen (erosion rills, stressed vegetation, etc.) a soil sample will be collected from that area</li> </ul>	<ul style="list-style-type: none"> <li>Samples will be analyzed for TCL VOCs, TAL metals and cyanide, TCL SVOCs, pesticides, and PCBs</li> </ul>	<ul style="list-style-type: none"> <li>Treatment/disposal technology and options evaluation</li> <li>Assess active or potential impact to groundwater</li> </ul>
Identify any areas that may require further investigation	<ul style="list-style-type: none"> <li>Review and evaluate any data generated from seepage, and determine whether it exceeds the Region 9 PRGs<sup>(3)</sup></li> </ul>	<ul style="list-style-type: none"> <li>Locations where leachate seepage is impacted at concentrations of potential concern</li> </ul>	<ul style="list-style-type: none"> <li>Determine locations where leachate collection may be required</li> <li>Aid in leachate volume estimates</li> <li>Site conceptual model and leachate migration potential</li> </ul>

**Notes:**

- (1) TCL - Target Compound List, VOCs - Volatile Organic Compounds, TAL - Target Analyte List, SVOCs - Semi-volatile Organic Compounds, PCBs - Polychlorinated Biphenyls  
 (2) FS - Feasibility Study  
 (3) PRGs - Preliminary Remediation Goals



TABLE 3

TEST PIT/TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP & LANDFILL SITE  
MORÁINE, OHIO

<i>Letter Work Plan Objective</i>	<i>Scope of Work</i>	<i>Information Gathered</i>	<i>Data Use in FS <sup>(2)</sup></i>
Collect data to assist in identifying the nature and delineating the extent of various types of landfilled materials above the water table	<ul style="list-style-type: none"> <li>Excavate six test pits</li> <li>Excavate twenty-three test trenches</li> <li>Excavate to the water table, where possible</li> </ul>	<ul style="list-style-type: none"> <li>Depth and nature of the fill material above the water table</li> <li>Presence of native soil in excavations based on visual inspection</li> </ul>	<ul style="list-style-type: none"> <li>Assess extent of waste</li> <li>Assess types of waste</li> <li>Identification of areas that exhibit similar characteristics</li> <li>Use to verify the limits and types of fill for cap types and dimensions</li> <li>Use to provide a basis for a range of suitable cap construction alternatives</li> </ul>
Collect data to assist in characterizing landfill materials above the water table			
Collect data to assist in characterizing leachate from unsaturated landfilled material	<ul style="list-style-type: none"> <li>Collect samples of leachate if leachate seeps from any of the test pits</li> </ul>	<ul style="list-style-type: none"> <li>Samples will be analyzed for TCL VOCs, TCL SVOCs, herbicides and pesticides, PCBs, and TAL inorganics <sup>(1)</sup></li> </ul>	<ul style="list-style-type: none"> <li>See Table 2</li> <li>Use data from inside the Site boundaries in alternative cap design evaluations and evaluation of potential groundwater impact</li> </ul>
Assess areas of the Site previously identified as specific areas of concern	<ul style="list-style-type: none"> <li>Excavate test pits where waste is known to exist (Valley Asphalt drum removal area, Valley Asphalt former UST <sup>(3)</sup> area, Custom Delivery UST area, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Samples will be analyzed for TCL VOCs, TCL SVOCs, herbicides and pesticides, PCBs, and TAL inorganics</li> </ul>	<ul style="list-style-type: none"> <li>Assess extent of waste</li> <li>Assess types of waste</li> <li>Evaluate the need for waste consolidation alternatives</li> <li>Use data for cap configuration alternatives</li> </ul>

TABLE 3

**TEST PIT/TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP & LANDFILL SITE  
MORaine, OHIO**

<i>Letter Work Plan Objective</i>	<i>Scope of Work</i>	<i>Information Gathered</i>	<i>Data Use in FS <sup>(2)</sup></i>
Identify Site areas, which may require further investigation	<ul style="list-style-type: none"> <li>Collect samples of the fill and waste materials, with a minimum of one sample from each test pit and two samples from each test trench</li> </ul>	<ul style="list-style-type: none"> <li>Data include TCL VOCs, TCL SVOCs, herbicides and pesticides, PCBs, TAL inorganics, and headspace VOCs</li> <li>A portion of each sample will be placed in a separate container for headspace analysis using a PID(4)</li> </ul>	<ul style="list-style-type: none"> <li>Use to determine areas which may need further investigation (including leachate sampling and analysis, groundwater quality investigation, or other delineation work) prior to ES or in RD</li> <li>Assess types of waste</li> <li>Assess active or potential impact to groundwater</li> <li>Data to be used in cap alternatives formulation</li> <li>Site conceptual model and leachate migration potential</li> </ul>

**Notes:**

- (1) TCL - Target Compound List, VOCs - Volatile Organic Compounds, TAL - Target Analyte List, SVOCs - Semi-volatile Organic Compounds, PCBs - Polychlorinated Biphenyls  
 (2) FS - Feasibility Study  
 (3) UST - underground storage tank  
 (4) PID - photoionization detector

**TABLE 4**  
**LANDFILL GAS/SOIL VAPOR INVESTIGATION**  
**SOUTH DAYTON DUMP & LANDFILL SITE**  
**MORaine, OHIO**

<i>Letter Work Plan Objective</i>	<i>Scope of Work</i>	<i>Information Gathered</i>	<i>Data Use in FS<sup>(2)</sup></i>
Assess the presence of and generation potential for landfill gas (LFG) and soil vapor within and adjacent to the Site	<ul style="list-style-type: none"> <li>· Install 18 gas probes to evaluate LFG and soil vapor concentrations</li> </ul>	<ul style="list-style-type: none"> <li>· Presence or absence of landfill gas, VOC concentrations, LFG migration to nearest receptor</li> </ul>	<ul style="list-style-type: none"> <li>· Assess need to collect and treat LFG - determine if LFG and soil vapor migration is a possibility on Site</li> </ul>
Obtain current data in locations where historic information indicated potential LFG generation concerns	<ul style="list-style-type: none"> <li>· Five of the eighteen probes will be installed in the central portion of the Site to establish the presence of methane and non-methane VOCs<sup>(3)</sup> near the potential source of gas generation</li> <li>· Three probes will be installed in the vicinity of the historic UST<sup>(4)</sup> removals and the Valley Asphalt drum removal area to assess the landfill gas generation rates</li> </ul>	<ul style="list-style-type: none"> <li>· Whether or not methane and non-methane VOCs are present on Site</li> <li>· Landfill gas generation rates in discrete areas</li> </ul>	<ul style="list-style-type: none"> <li>· Determine if LFG generation is occurring in discrete areas</li> <li>· LFG collection and treatment alternatives</li> </ul>
Calculate future LFG generation rates	<ul style="list-style-type: none"> <li>· Complete two rounds of monitoring, including measurement of gas pressure</li> <li>· Soil physical properties testing</li> </ul>	<ul style="list-style-type: none"> <li>· Gas pressure, methane, LEL and oxygen readings screening for methane and LEL<sup>(5)</sup> and oxygen</li> <li>· Summa canister samples for VOC analysis</li> <li>· Soil physical properties for LFG migration and generation calculations</li> </ul>	<ul style="list-style-type: none"> <li>· Calculate landfill gas generation rates</li> <li>· LFG collection systems and treatment alternatives</li> </ul>
Evaluate the need for and type of LFG control at the Site			<ul style="list-style-type: none"> <li>· See above</li> <li>· Site conceptual model and LFG migration potential</li> </ul>

**Notes:**

- (1) LFG - landfill gas
- (2) FS - Feasibility Study
- (3) VOC - volatile organic compound
- (4) UST - underground storage tank
- (5) LEL - lower explosive limit

TABLE 5  
GROUNDWATER INVESTIGATION  
SOUTH DAYTON DUMP & LANDFILL SITE  
MORaine, OHIO

<i>Letter Work Plan Objective</i>	<i>Scope of Work</i>	<i>Information Gathered</i>	<i>Data Use in FS<sup>(2)</sup></i>
Define subsurface stratigraphy, including identifying (fill-rich zone(s) and sand and gravel aquifer zone(s) beneath the Site	<ul style="list-style-type: none"> <li>Install twenty-three on-Site VAS<sup>(1)</sup> borings and two off-Site VAS borings during Phase 1</li> <li>Rotosonic drilling techniques</li> <li>Continuous soil cores</li> </ul>	<ul style="list-style-type: none"> <li>Soil data from soil cores</li> </ul>	<ul style="list-style-type: none"> <li>Subsurface stratigraphy for monitoring well installations</li> <li>Site conceptual model - groundwater migration</li> </ul>
Collect data to assist in characterizing groundwater impacts and select locations for monitoring wells through vertical aquifer sampling (including evaluation of existing monitoring wells)	<ul style="list-style-type: none"> <li>Collect groundwater samples from 5-foot intervals</li> </ul>	<ul style="list-style-type: none"> <li>VAS samples analyzed for TCL VOCs; 4 samples from each VAS boring analyzed for TCL SVOCs, total arsenic and lead<sup>(3)</sup></li> </ul>	<ul style="list-style-type: none"> <li>Assess need for and potential location of groundwater containment system</li> </ul>
Collect data to assist in characterizing groundwater chemistry through sampling Site monitoring wells and analysis of samples	<ul style="list-style-type: none"> <li>Groundwater samples from existing monitoring wells during Phase 1</li> <li>Complete two rounds of sampling after installation of new monitoring wells (in Phase 2)</li> </ul>	<ul style="list-style-type: none"> <li>Samples analyzed for TCL VOCs, TCL SVOCs, total arsenic and lead</li> <li>Samples collected after installation of new monitoring wells will also be sampled for monitored natural attenuation (MNA) parameters</li> </ul>	<ul style="list-style-type: none"> <li>Assess range of groundwater containment/treatment alternatives</li> </ul>
Collect data to assist in characterizing fill quality under Valley Asphalt fill pile.	<ul style="list-style-type: none"> <li>Drill one soil boring to the bottom of the fill material.</li> </ul>	<ul style="list-style-type: none"> <li>Soil data from soil cores</li> </ul>	<ul style="list-style-type: none"> <li>Assess type of waste (Table 3)</li> <li>Assess active or potential impact to groundwater</li> <li>Site conceptual model</li> </ul>
Collect groundwater and surface water elevation measurements over time to identify horizontal and vertical gradients and flow directions	<ul style="list-style-type: none"> <li>Collect synoptic water level measurements (ground and surface water) once a month using all permanent well installations (in both Phase 1 and Phase 2)</li> <li>More detailed hydraulic monitoring in Phase 2 with transducers in select wells and water bodies</li> </ul>	<ul style="list-style-type: none"> <li>Water level measurements over time</li> </ul>	<ul style="list-style-type: none"> <li>Site conceptual model - groundwater flow patterns and gradients</li> <li>Site conceptual model - groundwater/surface water interactions</li> <li>Assess range of groundwater containment and treatment alternatives</li> </ul>
Characterize geology and hydrogeology at Site	<ul style="list-style-type: none"> <li>Permanent monitoring wells to be installed in Phase 2</li> <li>Slug tests</li> </ul>	<ul style="list-style-type: none"> <li>Groundwater flow regime</li> <li>Contaminant distribution</li> <li>Presence/absence of natural processes</li> </ul>	<ul style="list-style-type: none"> <li>Site conceptual model - groundwater flow patterns and gradients</li> <li>Site conceptual model - groundwater/surface water interactions</li> <li>Assess range of groundwater containment and treatment alternatives</li> </ul>

Notes:

(1) VAS - Vertical Aquifer Sampling

(2) FS - Feasibility Study

(3) TCL - Target Compound List, VOCs - Volatile Organic Compounds, TAL - Target Analyte List, SVOCs - Semi-volatile Organic Compounds, PCBs - Polychlorinated Biphenyls



**CONESTOGA-ROVERS  
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April 17, 2008

Reference No. 038443

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency - Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Administrative Settlement Agreement and Order on Consent (ASAOC)  
Docket Number V-W-06-C-582  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

This letter memorializes the ASAOC Respondents' understanding with respect to recent discussions and correspondence with the United States Environmental Protection Agency (USEPA). The Respondents understand that the work presently contemplated and described herein for the Site is consistent with the ASAOC for a Remedial Investigation and Feasibility Study (RI/FS) and responsive to USEPA's January 9, 2008 letter to the Respondents.

On January 10, 2008, Conestoga-Rovers & Associates (CRA) received, on behalf of the Respondents, USEPA's January 9, 2008 comments on the draft RI/FS Work Plan (CRA, January 2007). The comment letter included a Streamlined Risk Assessment (SRA) produced by USEPA, and a request that the Respondents consider an alternate approach to the RI/FS for the Site without collecting any additional data. This alternate approach included a Presumptive Remedy for the entire area within the Site boundaries. USEPA's January 9, 2008 letter also proposed defining two operable units for the Site: the on-Site Presumptive Remedy area (OU1); and the off-Site conventional RI/FS area (OU2). USEPA's letter stated that this approach was being proposed to the Respondents as "Additional Work" in accordance with Section IX of the ASAOC. USEPA's proposal is a material change from the approach agreed upon by the parties in ASAOC. The Respondents were given a minimum of 28 days to respond to USEPA's request but the January 9, 2008 letter acknowledged that the parties may agree upon a more extended and reasonable schedule to address USEPA's proposal.

On five separate occasions in January, February, and March 2008, the Respondents met with USEPA (pursuant to USEPA's agreement to meet and discuss the January 9 letter), the State of Ohio, and USEPA's contractors to discuss USEPA's proposal. As discussed in those meetings, the Respondents do not believe that a presumptive remedy can be evaluated for any portion of

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April 17, 2008

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Reference No. 038443

the Site without collecting additional data. While USEPA did not agree with this position, USEPA did agree to allow the Respondents to collect additional data before responding to USEPA's presumptive remedy proposal. The Respondents agreed to collect the additional data on an expedited basis, with the goal of completing the field work in calendar 2008, assuming that necessary USEPA approvals can be obtained in a timely manner. The USEPA also agreed that the work to collect the additional data would be considered to be RI/FS work under the ASAO. The Respondents understand that USEPA may require that additional RI/FS data be collected at a later date.

Over the course of the five meetings, the Respondents and the USEPA discussed the scope of the additional data collection work. The Respondents then prepared and submitted five Letter Work Plans to USEPA in March 2008. These LWP's are:

- Land Survey, Bathymetry Survey, and Geophysical Investigation Letter Work Plan (CRA, March 14, 2008);
- Leachate Seep Investigation Letter Work Plan (CRA, March 13, 2008);
- Test Pit/Test Trench Investigation Letter Work Plan (CRA, March 17, 2008);
- Landfill Gas/Soil Vapor Investigation Letter Work Plan (CRA, March 14, 2008); and
- Groundwater Letter Work Plan (CRA, March 12, 2008).

The Respondents also submitted a fieldwork schedule to USEPA on March 19, 2008 and revised versions of the Quality Assurance Project Plan (on March 19, 2008), the Health and Safety Plan (on March 20, 2008), and the Field Sampling Plan (on March 28, 2008).

Following completion of the work described in the five Letter Work Plans, the Respondents will respond to USEPA's proposal to complete a "streamlined FS". The Respondents will identify which portions of the Site that the Respondents believe are appropriate for a "streamlined FS" process and which portions of the Site that the Respondents believe should follow a more traditional FS process. The parties can then discuss how best to proceed. In either circumstance, the Respondents are willing to complete the RI/FS on a reasonably different and more expedited basis than is laid out in the ASAO.

The Respondents request that USEPA confirm in writing that the meetings, submissions to USEPA, and continuing dialog are responsive to USEPA's January 9, 2008 letter and are considered to be RI/FS work in accordance with the ASAO and, once approved, the Letter

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April 17, 2008

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Work Plans and associated documents (HASP, QAPP, FSP, and schedule) will become incorporated into the Scope of Work for the Site.

Please call the undersigned if you have any questions or comments.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Stephen M. Quigley

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c.c. Matt Mankowski, USEPA (PDF)  
Matt Justice, Ohio EPA (PDF)  
Eric Kroger, CH2M Hill (PDF)  
Scott Blackhurst, Kelsey Hayes Company (PDF)  
Wray Blattner, Thompson Hine (PDF)  
Ken Brown, ITW (PDF)  
Jim Campbell, Engineering Management Inc. (PDF)  
Tim Hoffman, Representing Kathryn Boesch and Margaret Grillot (PDF)  
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May 28, 2009

Reference No. 038443

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency  
Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Feasibility Study (FS) Submission Schedule  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

This letter responds to the United States Environmental Protection Agency's (USEPA's) May 11, 2009 letter concerning the updated Remedial Investigation/Feasibility Study (RI/FS) submission schedule. Conestoga-Rovers & Associates (CRA) received USEPA's revised letter on May 19, 2009 and has prepared this letter on behalf of the Respondents to the Administrative Settlement and Order on Consent (Respondents) for the Site.

In the May 11, 2009 letter, USEPA requested that the Respondents provide written notification to USEPA by May 21, 2009 regarding whether the Respondents agree to USEPA's proposed due date of November 16, 2009 for the submission of the FS report. CRA provided the required notification to USEPA on behalf of the Respondents in a letter dated May 21, 2009. In the May 21, 2009 letter, the Respondents committed to providing a more "detailed response to the USEPA's May 11, 2009 letter detailing the rationale for the milestones in the April 27, 2009 Schedule and providing additional detail regarding the inclusion of the data from the 2009 investigative activities in the FS." This letter provides that more detailed response.

As discussed in CRA's May 21, 2009 letter, the Respondents believe that the data to be collected during the field tasks scheduled for completion in 2009 are essential to the preparation of a complete FS report for the Site (defined as OU1 in USEPA's May 11, 2009 letter). The Respondents' rationale for the collection of additional data in the FS report was originally detailed in a letter to USEPA dated April 17, 2008.

In the April 17, 2008 letter, the Respondents noted that USEPA's January 9, 2008 comments on the draft RI/FS Work Plan included a request that the Respondents consider an alternate approach to the RI/FS for the Site without collecting any additional data. This alternate

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approach included a Presumptive Remedy for the entire area within the Site boundaries. USEPA's letter stated that this approach was being proposed to the Respondents as "Additional Work" in accordance with Section IX of the Administrative Settlement Agreement and Order on Consent (ASAOC). USEPA's proposal was a material change from the approach agreed upon by the parties in ASAOC.

On five separate occasions between January and March 2008, the Respondents met with USEPA, the State of Ohio, and USEPA's contractors. During the meetings, the Respondents discussed their position that a presumptive remedy cannot be evaluated for any portion of the Site without collecting additional data. While USEPA did not agree with this position, USEPA did agree to allow the Respondents to collect additional data before responding to USEPA's presumptive remedy proposal, from a letter dated January 9, 2008. The Respondents agreed to collect the additional data on an expedited basis, with the goal of completing the field work in 2008, assuming that necessary USEPA approvals could be obtained in a timely manner. The USEPA also agreed that the work to collect the additional data would be considered to be RI/FS work under the ASAOC. The Respondents understand that USEPA may require that additional RI/FS data be collected at a later date.

In the April 17, 2008 letter, the Respondents committed to responding to USEPA's proposal to complete a 'streamlined FS' "following completion of the work described in the five Letter Work Plans". The Respondents proposed to identify which portions of the Site that the Respondents believe are appropriate for a "streamlined FS" process and which portions of the Site that the Respondents believe should follow a more traditional FS process.

In a separate letter to USEPA also dated April 17, 2008, the Respondents specified how the data to be collected during each of the investigations would be used in the FS. The letter provided the rationale for the completion of the Landfill Gas (LFG)/Soil Vapor and Groundwater Investigations, which is summarized below.

The Landfill Gas/Soil Vapor Investigation was proposed to obtain the following information for use in the FS:

- to assess the need to collect and treat LFG by determining if LFG and/or soil vapor are present and, if so, if LFG or soil vapor migration are a possibility on-Site;
- to determine if LFG generation is occurring in discrete areas based on locations of potential impacts documented in historic information;
- to calculate LFG generation rates; and
- to refine the Site conceptual model and propose LFG collection systems and treatment alternatives.



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The remaining Groundwater Investigation tasks were proposed so that data may be used in the FS to refine the Site conceptual model based on groundwater flow patterns and gradients, and groundwater/surface water interactions; and to assess the range of groundwater containment and treatment alternatives.

The Landfill Gas/Soil Vapor Investigation is scheduled to begin on September 8, 2009. The Landfill Gas/Soil Vapor Investigation includes the installation of 18 gas probes. The gas probe installation will generate data that will allow an evaluation of the presence (or absence) of landfill gas (LFG) to obtain current data in locations where historic information indicated potential LFG generation concerns; volatile organic compounds (VOCs) concentrations in soil gas; and LFG migration to the nearest receptor. The LFG/Soil Vapor Investigation will determine if LFG and soil vapor migration is a possibility on Site and assess the need to collect and treat LFG. Two rounds of monitoring, including measurement of gas pressure, will be conducted to calculate landfill gas generation rates, and to present LFG collection system and treatment alternatives.

The Phase 2 Groundwater Investigation is scheduled to begin on June 1, 2009. The Phase 2 Groundwater Investigation will include the installation of one piezometer and ten monitoring wells, two of which are dependant on the results of additional Vertical Aquifer Sampling (VAS). The monitoring wells will be installed to assist in characterizing Site geology and hydrogeology, and characterize groundwater chemistry through sampling. Two rounds of sampling following installation of proposed monitoring wells will be conducted to determine the contaminant distribution of VOCs, semi-volatile organic compounds (SVOCs), arsenic, and lead, and the presence or absence of natural degradation processes. The results of the two rounds of sampling will be used to assess the range of potential groundwater containment and other treatment alternatives.

Due to the need for the data from the investigative activities scheduled for 2009, which the Respondents believe is necessary for completion of the FS, the Respondents do not believe that the FS can be completed by November 16, 2009. Therefore, the Respondents respectfully request that the due date for the FS remain as February 27, 2010 as proposed in the Respondents' April 27, 2009 schedule.

*Rationale for April 27, 2009 Schedule*

The Respondents acknowledge that the field tasks have taken longer to complete than originally anticipated. However, the delays have been beyond the control of the Respondents and the Respondents have continued to move ahead as expeditiously as possible with the investigative activities and have worked cooperatively with USEPA to complete the agreed upon investigations in a timely manner.



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The Respondents submitted the original schedule for field activities on March 19, 2008. In the March 19, 2008 schedule, field activities were predicted to end at the end of December 2009. The March 19, 2008 schedule did not include a submission date for the FS. However, as the Respondents had indicated that the data collected during the investigations was to be used to prepare the FS; the RI report, risk assessment, and FS would be completed following completion of the fieldwork.

The Letter Work Plans, which documented the proposed investigative activities, and the Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and Field Sampling Plan (FSP) were submitted to USEPA between January 2007 and March 17, 2008.

Under the original submission schedule, USEPA approval of work plans, the QAPP, HASP, and FSP, were tentatively expected by April 10, 2008 and the investigative tasks were scheduled accordingly. Final USEPA approvals of the various documents were received on the following dates:

- |                                                                  |                           |
|------------------------------------------------------------------|---------------------------|
| • Leachate Seep Investigation -                                  | April 30, 2008            |
| • Groundwater Investigation -                                    | May 5, 2008               |
| • Test Pit/Test Trench Investigation -                           | May 6, 2008               |
| • Land Survey, Bathymetry Survey and Geophysical Investigation - | May 6, 2008               |
| • HASP -                                                         | May 27, 2008              |
| • QAPP -                                                         | June 16, 2008             |
| • Landfill Gas/Soil Vapor Investigation -                        | July 1, 2008              |
| with additional comments sent on                                 | July 7, 2008              |
| • FSP - Test Pit /Test Trench Sections -                         | September 22, 2008        |
| - Groundwater Sampling Sections -                                | August 21, 2008           |
| - Remainder of FSP -                                             | Approval not yet received |

The original March 19, 2008 schedule assumed that relatively minimal clearing would be required and that the topography of the Site was such that it would permit reasonable access for land clearing equipment. Once the clearing commenced, it became apparent that the scope of the clearing operations was considerably greater than anticipated for the following reasons:

- vegetation at the Site was considerably thicker than anticipated;
- the presence of significant surficial debris, drum carcasses, compressed gas cylinders, and protruding rebar created a number of health and safety concerns requiring a more cautious, segmented approach; and



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- delays in receiving approval to proceed from USEPA meant that clearing did not begin in the later winter/early spring as planned but instead could not begin until the summer months following the emergence of leaves and seasonal vegetation, which increased the volume of material to be cleared and rendered visual identification of hazards difficult, further slowing the pace of clearing.

Originally scheduled to take three days (under the task entitled 'metal debris consolidation along access road'), the site clearing activities took 36 days.

An updated schedule was provided on July 25, 2008 upon receipt of USEPA approval of the Letter Work Plans detailing the proposed investigations. The July 25, 2008 schedule accounted for the actual date on which USEPA approved the Letter Work Plans and for the increased effort that was required for Site clearing. In the July 25, 2008 schedule, field activities were predicted to end at the beginning of July 2009.

The VAS investigation duration was originally estimated to be four weeks. Due to the presence of significant quantities of silt within portions of sand and gravel layers, the VAS investigation proceeded at a slower rate than expected, and was completed in 11 weeks.

The Respondents believe that the revised schedule, and resulting time extensions, are appropriate due to the delays noted above and the time necessary to properly complete the proposed field investigations.

The tasks that remain to be completed include:

- Additional Leachate Seep Monitoring;
- Hydraulic monitoring;
- Phase 2 Groundwater Investigation:
  - New groundwater monitoring well installations and development;
  - Groundwater monitoring well sampling (round 1);
  - Groundwater monitoring well sampling (round 2);
- Dayton Power and Light (DP&L) Investigation<sup>1</sup>;
- Landfill Gas/Soil Vapor Monitoring;

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<sup>1</sup> As EPA is aware, DP&L has refused access for required site investigation and has attempted to dictate the limits of work to be performed on its property. This has required us to seek EPA assistance in gaining access to the property. DP&L still refuses to participate in Site work despite its receipt of a Special Notice Letter from EPA.



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- Landfill gas / soil vapor monitoring probe installation;
- Landfill gas/soil vapor monitoring and sampling (round 1); and
- Landfill gas/soil vapor monitoring and sampling (round 2).

As detailed in the USEPA-approved Groundwater Investigation Work plan, dated May 7, 2008, the first round of Phase 2 groundwater samples will be collected two weeks after monitoring well installation, and the second round of samples will be collected two months later. The revised schedule decreased the amount of time between sampling rounds to six weeks, instead of two months. Additional time has been built into the Phase 2 Groundwater Investigation schedule to account for the standard laboratory turn-around time of 10 business days.

Monitoring wells will be developed no sooner than 48 hours after grouting is completed (as per the FSP). Monitoring wells will be sampled no sooner than two weeks after installation, to allow the areas adjacent to the wells and the well screens to return to their indigenous conditions by correcting damage done to the formation by the drilling process (referred to as "well trauma"). As stated in the Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells (USEPA, March 1991), damage to the adjacent area may occur in many forms:

- 1) if a vibratory method, such as driving casing, is used during the drilling process, damage may be caused by compaction of the sediment in place;
- 2) if a compacted sand and gravel is drilled by a hollow-stem auger and then allowed to collapse around the monitoring well intake, damage may be the resultant loss of density of the natural formation; and
- 3) if a drilling fluid of any type is added during the drilling process; damage may occur by the infiltration of filtrate into the formation.

The Respondents believe two groundwater sampling rounds for the new wells are required as not all existing monitoring wells were deemed suitable for use in groundwater quality monitoring, as stated in the Phase 1 Groundwater Report (CRA, March 2009). The well screen depths of only nine of thirteen existing monitoring wells correspond either to the VAS intervals at which the maximum concentrations of VOCs were detected, or are consistent with VAS data. As not all the existing monitoring wells are suitable for use in groundwater quality monitoring, and as additional monitoring wells are necessary to investigate the vertical extent of VOCs detected during the VAS investigation, the Respondents believe that at least two monitoring rounds are necessary to adequately characterize the horizontal and vertical extent of contamination.



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In the May 11, 2009 letter, the USEPA comment that it is "not clear why CRA needs six weeks from USEPA's approval of the Phase 2 Groundwater Investigation letter Work Plan before CRA will start monitoring well installation". The April 27, 2009 schedule allowed six weeks from the time of USEPA's approval of the Phase 2 Groundwater Investigation Letter Work Plan in order to allow for time to reach agreement between USEPA and the Respondents on any changes to the scope of work and to allow for drilling subcontractor availability. The schedule allowed for two weeks for USEPA review of the proposed new well installations, which was initially submitted as part of the draft Phase 1 Groundwater Report, and finalized in the Phase 2 Groundwater Investigation letter Work Plan. USEPA approval of the proposed new well installations was granted two months after submission of the draft Phase 1 Groundwater Report and one month after submission of the Phase 2 Groundwater Investigation Letter Work Plan.

USEPA approved the Phase 2 Groundwater Investigation Letter Work Plan in its May 11, 2009 letter (received on May 19, 2009). The Phase 2 Groundwater Investigation is scheduled to begin on June 1, 2009. Only two weeks separates receipt of final approval of the Phase 2 groundwater investigation scope from the start of the fieldwork.

USEPA stated in the May 11, 2009 letter that it is "not necessary to wait until September 2009 to begin the landfill gas investigation, since this task is independent of the groundwater investigation". The Landfill Gas Investigation was originally scheduled to be completed concurrently with the Phase 2 Groundwater Investigation. The groundwater quality data collected to date indicate relatively diffuse groundwater impacts across the Site with localized areas of higher contaminant concentrations. The Respondents believe that the Landfill Gas Investigation should be tailored to determine soil vapor concentrations near areas where the groundwater concentrations indicate the potential for contaminant volatilization to contribute to the potential for soil vapor issues. In order for accurate and effective identification of target locations for soil vapor probes the Respondents believe that the data obtained during the first round of groundwater sampling from the monitoring wells installed during the Phase 2 Groundwater Investigation should be assessed prior to finalizing the soil vapor probe locations.

The Respondents acknowledge that the field tasks included in the original March 19, 2008 Schedule have taken longer to complete than originally anticipated. However, the delays have been beyond the control of the Respondents and the Respondents have continued to move ahead as expeditiously as possible with the investigative activities and have worked cooperatively with USEPA to complete the agreed upon investigations in a timely manner.

Further, the Respondents believe that the data to be collected during the field tasks scheduled for completion in 2009 are essential to the preparation of a complete FS report for the Site. Accordingly, the Respondents firmly believe that the due date for the FS should remain as February 27, 2010 as proposed in the Respondents' April 27, 2009 Schedule.



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Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Stephen M. Quigley

AL/ca/62

Encl.

c.c.	Pat Hamblin, USEPA (PDF)	Paul Jack, Castle Bay (PDF)
	Matt Justice, Ohio EPA (PDF)	Robin Lunn, Winston & Strawn (PDF)
	Robert Frank, CH2M Hill (PDF)	Roger McCready, NCR (PDF)
	Scott Blackhurst, Kelsey Hayes Company (PDF)	Karen Mignone, Pepe & Hazard (PDF)
	Wray Blattner, Thompson Hine (PDF)	Lou Almeida, CRA (PDF)
	Ken Brown, ITW (PDF)	Adam Loney, CRA (PDF)
	Jim Campbell, EMI (PDF)	
	Tim Hoffman, Representing Kathryn Boesch and Margaret Grillot (PDF)	



**CONESTOGA-ROVERS  
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January 21, 2010

Reference No. 038443

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency - Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Scope of Streamlined and Conventional Feasibility Study (FS) Reports  
Administrative Settlement Agreement and Order on Consent (ASAOC)  
Docket Number V-W-06-C-582  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

This letter documents the ASAOC Respondents' proposed scope for the Streamlined FS for the Site.

On January 10, 2008, Conestoga-Rovers & Associates (CRA) received, on behalf of the Respondents, USEPA's January 9, 2008 comments on the draft RI/FS Work Plan (CRA, January 2007). The comment letter included a Streamlined Risk Assessment (SRA) produced by USEPA and a request that the Respondents consider a Presumptive Remedy for the entire area within the Site boundaries. USEPA's January 9, 2008 letter also proposed defining two operable units for the Site: the on-Site Presumptive Remedy area (OU1); and the off-Site conventional RI/FS area (OU2). USEPA's letter stated that this approach was being proposed to the Respondents as "Additional Work" in accordance with Section IX of the ASAOC. USEPA's proposal is a material change from the approach agreed upon by the parties in the ASAOC.

Pursuant to USEPA's agreement to meet and discuss the January 9, 2008 letter, the Respondents met with USEPA, the State of Ohio, and USEPA's contractors on five separate occasions in January, February, and March 2008 to discuss USEPA's proposal. As discussed in those meetings, the Respondents believed that evaluation of a presumptive remedy required the collection of RI data. Although USEPA did not agree with this position, USEPA did agree to allow the Respondents to collect RI data before providing a response to USEPA's presumptive remedy proposal. The USEPA also agreed that the work to collect the RI data would be considered to be RI/FS work under the ASAOC.

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Over the course of the five meetings in early 2008 the Respondents and the USEPA discussed the scope of the RI data collection. The Respondents then prepared and submitted Letter Work Plans to USEPA in March 2008. Based on data collected during the work the Respondents identified additional data requirements and proposed work to obtain these additional data on the Dayton Power & Light (DP&L) property to the east of the Site.

The Respondents agreed to respond to USEPA's proposal to complete a "streamlined FS" following performance of the work described in the Letter Work Plans. The Respondents committed to use the data generated during the Site investigation to identify portions of the Site that the Respondents believe are appropriate for a Streamlined FS process and portions of the Site that the Respondents believe should follow the conventional FS process. The RI data collection is now largely complete with the additional work on the DP&L property scheduled for completion in early 2010. Accordingly, the Respondents have prepared this letter to document the proposed scope of the Streamlined FS.

Based on the data collected to date, the Respondents propose to include the non-groundwater portion of the Site excluding the Quarry Pond in the Streamlined FS process. Figure 1 shows the proposed area with the Site boundary and Quarry Pond limits identified. The Streamlined FS will consider containment as the appropriate remedial approach, and thus will evaluate capping and landfill gas and soil vapor requirements and will take into consideration the following:

- Human health and ecological risks posed by the contaminants present in these areas
- The nature of the waste disposed of on the various Parcels in question
- The applicable or relevant and appropriate requirements (ARARs) specific to the types of waste disposed of at the Site
- The presence of active businesses on a number of the Parcels

The streamlined FS will include a risk assessment, ARARs analysis, remedial action objectives, alternatives array, and detailed evaluation of containment options. The RI data reported in the various letter reports will be included by reference.

CRA's evaluation of the RI groundwater data indicates the presence of both shallow and deep groundwater contamination beneath the Site. However, the data also indicate the presence of off-Site groundwater contamination, both upgradient and downgradient in both the shallow and deeper portions of the aquifer. The Respondents have not yet determined the source(s), nature, and extent of the broader-area groundwater impacts. Accordingly, any proposed remedy for the groundwater impacts beneath the Site must first include an evaluation of the broader-area groundwater impacts. A groundwater remedy tailored solely to the



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contamination beneath the Site may exacerbate any future remediation of the off-Site groundwater impacts. Thus, the Respondents propose to address the groundwater and light non-aqueous phase liquid (LNAPL) through the conventional FS process.

The conventional FS will include a baseline risk assessment, ARARs analysis, remedial action objectives, alternatives array, and detailed evaluation of alternatives. The RI data reported in the various letter reports will be included by reference.

We will call you to arrange a time to meet and discuss the proposed FS approach. Provided the Respondents and EPA can meet and agree on the scope of the streamlined FS by February 15, 2010, the Respondents propose to submit the streamlined FS to USEPA by March 31, 2010. The work associated with the conventional FS will commence immediately following submission of the streamlined FS and the Respondents will discuss the schedule for the conventional FS with USEPA.

In the meantime, please call the undersigned if you have any questions or comments.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Stephen M. Quigley

VC/ca/74

Encl.

cc: Tim Prendiville, USEPA (PDF)  
Matt Justice, Ohio EPA (PDF)  
Robert Frank, CH2M Hill (PDF)  
Scott Blackhurst, Kelsey Hayes Company (PDF)  
Wray Blattner, Thompson Hine (PDF)  
Ken Brown, ITW (PDF)  
Jim Campbell, EMI (PDF)  
Tim Hoffman, Dinsmore & Shohl (PDF)

Paul Jack, Castle Bay (PDF)  
Robin Lunn, Winston & Strawn (PDF)  
Roger McCready, NCR (PDF)  
Karen Mignone, Verrill Dana (PDF)  
Lou Almeida, CRA (PDF)  
Adam Loney, CRA (PDF)



figure 1  
 SITE MAP  
 SOUTH DAYTON DUMP AND LANDFILL SITE  
 Moraine, Ohio



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590**

February 16, 2010

Mr. Stephen Quigley, P.E.  
Principal-in-Charge/Project Manager  
Conestoga-Rovers & Associates Ltd.  
651 Colby Drive  
Waterloo, Ontario, Canada  
N2V 1C2

RE: Conestoga-Rovers Proposed Feasibility Study Approach  
South Dayton Dump and Landfill Site, Moraine, Ohio

Dear Mr. Quigley:

The United States Environmental Protection Agency (EPA) has reviewed Conestoga-Rovers & Associates' (CRA's) January 21, 2010 proposed Feasibility Study (FS) approach for the South Dayton Dump and Landfill (SDDL) Site in Moraine, Ohio. EPA cannot agree to CRA's January 21, 2010 proposal. We respectfully request that by March 31, 2010, CRA submit the streamlined Operable Unit 1 (OU1) Remedial Investigation/Feasibility Study (RI/FS) Report, as outlined in EPA's January 9, 2008 letter, to EPA (see Attachment 1). The report must also include a complete discussion of CRA's 2008-2010 field investigations and findings.

In CRA's January 21, 2010 proposal, CRA proposes to include the non-groundwater portion of the Site, excluding the Quarry Pond, in a streamlined FS process. CRA states the proposed FS will address the non-groundwater portion of the Site within the Site boundary, as defined by the 2006 Statement of Work (SOW), and will evaluate capping and landfill gas and soil vapor requirements taking into consideration:

- Human health and ecological risks posed by the contaminants present in these areas;
- The nature of the waste disposed of on the various Parcels in question;
- The applicable or relevant and appropriate requirements (ARARs) specific to the types of waste disposed at the Site; and,

- The presence of active businesses on a number of the Parcels.

CRA states the streamlined FS will include a risk assessment, ARARs analysis, remedial action objectives, alternatives array, and a detailed evaluation of containment options. CRA also states that the Remedial Investigation (RI) data, reported in CRA's letter reports, will be included by reference.

CRA then proposes to address the light non-aqueous phase liquid (LNAPL) and other on-Site groundwater contamination through a conventional FS process. CRA's conventional FS will include a baseline risk assessment, ARARs analysis, remedial action objectives, alternative array, and a detailed evaluation of alternatives, with the RI data reported in CRA's letter reports to be included by reference.

CRA indicates that if EPA agrees with this approach, CRA will submit the streamlined FS by March 31, 2010.

CRA's proposal is not consistent with EPA's direction for addressing the Site outlined to CRA on January 9, 2008. As EPA indicated in its January 9, 2008 letter, EPA's 2007 Streamlined Risk Evaluation (SRA) already indicates existing groundwater, soil, and sediment data demonstrate the Site poses an unacceptable risk to human health and the environment. This clearly warrants remedial action. This conclusion is further confirmed by CRA's 2008-2010 field work, as discussed later in this letter.

Consistent with EPA guidance, the SRA provides clear justification to implement response actions to address the following pathways at the Site:

- Prevent direct contact with landfill contents;
- Minimize infiltration through landfill contents and resulting contaminant leaching to groundwater;
- Control surface water runoff and erosion, including erosion during flooding from the adjacent Great Miami River;
- Collect and treat and/or contain contaminated groundwater and any leachate and prevent further migration from the source area; and,
- Control and treat landfill gas if necessary.

Based on the SRA, and, using the information in CRA's RI/FS Work Plan, EPA's review comments on the RI/FS Work Plan and the SRA, EPA requested CRA streamline the RI/FS for the landfill source area of the Site (Operable Unit 1 or OU1). EPA also requested that CRA move forward with preparing a streamlined RI/FS Report to address the risks identified by the SRA.

As indicated in EPA's January 9, 2008 letter, the content of CRA's streamlined RI Report for OU1 should be very similar to the content of CRA's RI/FS Work Plan



Sections 1.0 (Introduction) to 3.2.3 (Exposure Pathways), revised to address EPA's comments on the RI/FS Work Plan; and should include EPA's SRA.

CRA's streamlined FS for OU1 should then evaluate presumptive remedy alternatives based on remedial action objectives to:

- Contain landfill contents to: prevent direct contact with landfill materials; minimize infiltration and resultant contaminant leaching to groundwater; and prevent landfill contents and contaminants from being transported to the Quarry Pond, to the Great Miami River, to 100-year floodplain areas of the Great Miami River, and to any other areas outside the landfill. This will include: landfill contents throughout the 80-acre Site (as defined in the RI/FS SOW) including Site areas with buildings and business operations, and the Quarry Pond; landfill contents in off-Site areas - e.g., Lot 3278, Lot 3056, Lot 3057 and Lot 3275; and landfill contents in any other possible off-Site areas.
- Prevent exposure to any contamination in on-Site Valley Asphalt wells (one reported to be used as potable water supply) that exceeds Maximum Contaminant Levels (MCLs) and/or poses a cumulative cancer risk greater than  $1 \times 10^{-4}$  or a noncancer hazard index greater than 1.0 based on reasonable maximum industrial exposure.
- Contain groundwater contamination at the perimeter of the landfill that exceeds MCLs and/or poses a cumulative cancer risk greater than  $1 \times 10^{-4}$  and/or a noncancer hazard index greater than 1.0 based on reasonable maximum residential exposure.
- Contain leachate (if necessary).
- Prevent exposure to unacceptable levels of landfill/soil gas and unacceptable levels of soil vapors from groundwater within/beneath the landfill. This will include: areas where receptors may be exposed to landfill/soil gas and soil vapors from groundwater within the landfilled area; containing landfill/soil gas and soil vapors from groundwater at the perimeter of the landfill; and preventing landfill/gas soil vapors from accumulating at unacceptable levels under the landfill cap.

Consistent with EPA policy and guidance, CRA should then address off-Site areas not addressed by the presumptive remedy (Operable Unit 2 or OU2) through a conventional (i.e., not streamlined) RI/FS, Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA). CRA's RI/FS, HHRA and ERA for OU2 should be consistent with the RI/FS SOW and should address:

- Soil contamination in areas outside the landfill (e.g., Great Miami River floodplain/recreational areas, properties surrounding Site);
- Surface water and sediment contamination in the Great Miami River, including sediment contamination in areas adjacent to the Site and other areas of the Great Miami River that are or may be impacted by the Site (e.g., groundwater discharge areas);
- Surface water and sediment contamination in any other surface water bodies or wetlands that are or may be impacted by the Site (e.g., through past erosion/overland flow, sediment transport, groundwater discharge);
- Groundwater contamination outside the perimeter of the landfill, including exposure to any soil vapors from groundwater; and
- Ecological investigations (areas outside landfill).

In February, 2008, EPA agreed to give CRA time to collect additional data the Respondents wanted to collect to complete the streamlined FS for landfill contents and on-Site groundwater at the Site. EPA agreed to this time extension even though EPA's position was that CRA could move forward with an FS at that time. It was anticipated this work would take CRA one field season to conduct.

In April, 2009, CRA sent EPA a Phase 2 Groundwater Investigation Letter Work Plan and updated RI/FS submission schedule. In the updated schedule, CRA proposed to submit the FS Report to EPA on February 12, 2011. The revised submission date was significantly beyond the time frame EPA expected to receive the FS, and EPA did not agree to CRA's proposed schedule. On May 11, 2009, EPA sent CRA a letter indicating it should take CRA no more than 6 months to finish up any additional field work. We further stated that by November 16, 2009, CRA should submit the streamlined OU1 RI/FS Report outlined in EPA's January 9, 2008 letter to EPA, and that the report should include CRA's additional field work and data.

On May 28, 2009, CRA sent EPA a letter indicating the remaining field work the Respondents wanted to conduct would take longer than 6 months to complete, and was necessary to complete the FS. CRA proposed to submit the FS on February 27, 2010. EPA still does not agree CRA's additional field work was necessary to complete a streamlined RI/FS for the Site. However, due to delays in getting access to the Dayton Power and Light (DPL) property, EPA is willing to extend the submission date for the streamlined OU1 RI/FS to March 31, 2010 - the submission date indicated in CRA's January 21, 2010 letter.

CRA's January 21, 2010 proposal for addressing the landfill contents, Valley Asphalt wells, soil gas, leachate, groundwater at the perimeter of the landfill, and for addressing any Site-related contamination in media outside the perimeter of the landfill, is not consistent with EPA's January 9, 2008 direction for moving forward with OU1 and OU2 at the Site. CRA states their proposal is based on the data collected to date; however,

CRA's January 21, 2010 letter does not include any data or evaluation to support this proposal.

In an attempt to more fully evaluate CRA's January 21, 2010 proposal, EPA conducted its own evaluation of the data CRA collected during 2008-2010. EPA's review indicates that none of the data CRA collected are inconsistent with the streamlined OU1 RI/FS and conventional OU2 RI/FS for the Site, outlined in EPA's January 9, 2008 letter. Conversely, CRA's 2008-2010 data provide additional support for, and further substantiate the need to complete the streamlined OU1 RI/FS Report and start the conventional OU2 RI/FS at the Site at this time.

While EPA is reviewing the streamlined OU1 RI/FS Report and OU2 RI/FS planning documents, and working on the Record of Decision (ROD) and Remedial Design/Remedial Action (RD/RA) negotiation processes, EPA is willing to continue to work with the Respondents on any OU1 data collection activities the Respondents would like to propose. EPA will then consider this data, as appropriate, during RD/RA; or as support for a change in EPA's OU1 Proposed Plan or ROD, or as a ROD Amendment or an Explanation of Significant Difference.

Finally, EPA would also like to address some of the main issues raised in CRA's January 21, 2010 letter:

**CRA Issue 1:** CRA's streamlined FS will exclude the Quarry Pond.

**EPA Comments on Issue 1:** The streamlined OU1 FS must be consistent with the scope of the streamlined OU1 FS outlined in EPA's January 9, 2008 letter. The streamlined OU1 FS must evaluate presumptive remedy alternatives to contain landfill contents to: prevent direct contact with landfill materials; minimize infiltration and resultant contaminant leaching to groundwater; and prevent landfill contents and contaminants from being transported to the Quarry Pond, to the Great Miami River and 100-year floodplain areas of the Great Miami River, and to any other areas outside the landfill.

As stated in EPA's January 9, 2008 letter, this will include: landfill contents throughout the 80-acre Site (as defined in the RI/FS SOW), including Site areas with buildings and business operations, and the Quarry Pond; and landfill contents in off-Site areas.

CRA's 2008-2010 field work indicates the landfill extends into the Quarry Pond (see log and analytical results for test trench TT16). The test trench log from the test trench CRA excavated in this area indicates the material in TT16 is a brown sand and gravel fill with concrete blocks, concrete with re-bar, asphalt, bricks and wood. EPA's oversight contractor also observed TT16 contained plastic and black sand.

The analytical data from the landfill sample CRA collected from TT16 contained benzo(a)anthracene, benzo(b)fluoranthene, dibenz(a,h)anthracene and indeno(1,2,3-



cd), all above EPA residential screening criteria; and benzo(a)pyrene and arsenic both above industrial screening criteria (see Figures 3 and 4 in Attachment 2).

The Quarry Pond is also a designated wetland. Many of the polynuclear aromatic hydrocarbons (PAHs) in the analytical sample from TT16 were at concentrations just below Consensus-Based Probable Effects Concentrations (PECs) for sediment. The PAHs in the sample from TT16 were detected in sediment samples collected from the Quarry Pond in 1996 by the Ohio Environmental Protection Agency (OEPA), one of which contained PAHs above PECs (sediment sample S16).

This data confirms the landfill extends into the Quarry Pond, and that the landfill materials in the Quarry Pond must be included in the streamlined OU1 FS. CRA had two years to collect additional data to support a quantitative HHRA and ERA to demonstrate whether there are any areas of the landfill areas that do not require containment. However, CRA, did not collect this data. Any uncertainty concerning the exact extent of the landfilled materials in the Quarry Pond can be addressed through additional sampling now, for later consideration; or during RD/RA.

**CRA Issue 2:** CRA's streamlined FS will only address the non-groundwater portion of the Site, as defined by the Site boundary in the 2006 SOW.

**EPA Comments on Issue 2:** See paragraphs 1 and 2 of EPA Comments on Issue 1. The streamlined OU1 FS must be consistent with the scope of the streamlined OU1 FS outlined in EPA's January 9, 2008 letter. CRA's test trenches indicate the landfill extends beyond the Site boundary, as defined in the 2006 SOW, onto at least Miami Conservancy District Lots 3278, 3058, 3057 and 3056. The test trenches also show that the landfill materials on these properties contain hazardous substances above residential and industrial screening levels (see Figures 2 to 5 in Attachment 2). Many of the sample locations have concentrations of hazardous substances corresponding to industrial hazard indices > 1.0 (e.g., lead in: TT4 on Lot 3278, TT5 on Lot 3058, TT19 on Lot 3057 and TT20 on Lot 3056).

CRA's sampling also indicates the landfill material at many of these locations contains hazardous substances above EPA soil screening levels for the protection of groundwater, even at non-conservative MCL or  $10^{-4}$  risk levels, and considering a non-conservative dilution attenuation factor (DAF) of 10. Tetrachloroethene was detected in TT20 on Lot 3056 above  $10^{-4}$  screening levels; and trichloroethene was detected in TT19 on Lot 3057 and in TT20 on Lot 3056 above MCL screening levels. Tetrachloroethene was also detected in TT5 on Lot 3058 just below MCL groundwater protection levels (see Table 1).

This data confirms the landfill extends beyond the Site boundary defined in the 2006 SOW, and that these areas need to be included in the streamlined OU1 FS. CRA had two years to collect additional data to support a quantitative HHRA and ERA to demonstrate whether there were any areas of the landfill areas that do not require

containment. However, CRA did not collect this data. Any uncertainty concerning the exact extent of the landfilled material in other areas beyond the 2006 Site boundary (e.g., Lot 3273, 3275, and 3264) can be addressed through additional sampling now, for later consideration; or during RD/RA.

**CRA Issue 3:** Capping and landfill gas and soil vapor requirements will consider, among other things, human health and ecological risks posed by the contaminants in these areas and the nature of the waste disposed in various areas.

**EPA Comments on Issue 3:** See EPA Comments on Issues 1 and 2. The streamlined OU1 FS must be consistent with the scope of the streamlined OU1 FS outlined in EPA's January 9, 2008 letter. Unless CRA is referring to the RCRA characteristic waste found in composite landfill samples from TP1, TP3 and TP4; TT21 and TT22; and the TT21 drum, it not clear how the nature of the waste disposed in various areas of the Site will be relevant.

Hazardous substances have been found above industrial and/or residential screening levels in 67 out of 71 samples of landfill material collected from 28 locations across the 80-acre landfill (see Figures 2 to 5 in Attachment 2). Many of the sampled locations contained hazardous substances at levels corresponding to an industrial hazard index greater than 1 (e.g., lead in: TP3, TP5, TT4, TT5, TT7, TT9, TT20, TT21, TT22 and TT23).

CRA's landfill material sampling shows many of the sampled locations also contain hazardous substances above EPA soil screening levels for the protection of groundwater, even at non-conservative MCL or  $10^{-4}$  risk levels, and considering a non-conservative DAF of 10 (e.g., vinyl chloride in TT8, TT9, TT21 and TT22, trichloroethene in TT21, and tetrachloroethene in TT20 above  $10^{-4}$  risk levels; trichloroethene in TT7, TT9, TT19, TT20 and TT23 above MCL levels – see Table 1).

CRA's soil gas sampling also shows hazardous substances, including vinyl chloride and trichloroethene, are present above  $10^{-4}$  risk levels at 11 out of 21 gas probe locations (see Figure 2 in Attachment 3), and are present above  $10^{-5}$  or  $10^{-6}$  risk levels at 8 other locations.

Again, this data supports addressing the Site consistent with the scope of the streamlined OU1 FS outlined in EPA's January 9, 2010 letter.

**CRA Issue 4:** The streamlined FS and conventional FS will include a risk assessment, ARARs analysis, remedial action objectives, alternatives array, and detailed evaluation of alternatives. The RI data reported in the various letter reports will be included by reference.

**EPA Comments on Issue 4:** The streamlined OU1 RI/FS and conventional OU2 RI/FS Reports must be consistent with EPA guidance and the requirements outlined in EPA's January 9, 2008 letter. A streamlined OU1 RI Report and a conventional OU2 RI Report must be submitted.

**CRA Issue 5:** CRA's streamlined OU1 FS will not address on-Site groundwater or the LNAPL in the northeast area of the Site. Shallow and deeper on-Site and off-Site groundwater is contaminated, and the Respondents have not determined the sources, nature and extent of the groundwater contamination. Any remedy for groundwater impacts beneath the Site must first include an evaluation of the broader-area groundwater impacts. A remedy tailored solely to the contamination beneath the Site may exacerbate any future remediation of off-Site groundwater.

**EPA Comments on Issue 5:** Consistent with EPA guidance and policy, and, as indicated in EPA's January 9, 2010 letter, the streamlined OU1 FS for SDDL must evaluate remedial alternatives to contain groundwater contamination at the perimeter of the landfill that exceeds MCLs and/or poses a cumulative cancer risk greater than  $1 \times 10^{-4}$  or a noncancer hazard index greater than 1.0 based on reasonable maximum residential exposure.

The landfill is located within the Great Miami Valley Sole Source Aquifer and is in a secondary wellhead protection area. Well records indicate there are two residential wells and 5 commercial/industrial wells located within 500 to 1500 feet of the general downgradient direction of the Site (see Appendix F in EPA's SRA). In October, 2009 EPA confirmed Well 966158 on East River Road approximately 500 feet south of the Site was being used as a potable water supply.

The primary (but not only) groundwater contaminants at the Site are chlorinated solvents, including trichloroethene (TCE) and its breakdown products cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride; and benzene. CRA states the Respondents have not determined the sources(s), nature and extent of the broader area impacts. However, OU1 only addresses groundwater at the perimeter of the landfill.

Vertical aquifer sampling (VAS) and groundwater monitoring wells clearly indicate groundwater along the eastern, Dryden Road boundary of the Site is contaminated with TCE, cis-1,2-DCE and vinyl chloride significantly above MCLs and acceptable risk levels. These unacceptable impacts are present from at least from VAS-14/MW-216 south to VAS-21/MW-210/MW-210A/B, a distance of 1,200 feet.

Vinyl chloride was detected in MW-216 at a concentration of 92 ug/L. This concentration of vinyl chloride corresponds to a cancer risk of  $5 \times 10^{-3}$ . Vinyl chloride was also found at a concentration of 55 ug/L in MW-210A, which corresponds to a cancer risk of  $5 \times 10^{-3}$ . The MCL for vinyl chloride is 2 ug/L. TCE has also been

detected at high concentrations in MW-210 at the southeast corner of the Site since 1998. The most recent concentrations of TCE in MW-210 were 180-260 ug/L in 2008-2009. These concentrations are significantly above the MCL for TCE, which is 5 ug/L.

The most obvious source for the groundwater contamination at the Site boundary is the landfill. Records indicate chlorinated solvents including 1,1,1-trichloroethane (which can break down into TCE and other degradation products) was disposed at the Site. In 2000, a composite sample from 5 drums removed from a limited excavation at Valley Asphalt contained 64,000 ug/Kg TCE, 840 ug/Kg vinyl chloride and 7,000 ug/Kg benzene.

CRA's 2008 test trench/test pit data shows landfill material at four locations (TT8, TT9, TT21 and TT22) contains vinyl chloride above EPA soil screening values for groundwater protection (see Table 1). The screening values are based on a non-conservative cancer risk of  $10^{-4}$  and DAF=10. Tetrachloroethene, another chlorinated solvent which can degrade into TCE and other breakdown products, was detected in test trench TT20 above non-conservative soil screening values for the protection of groundwater. TCE was detected in landfill materials above  $10^{-4}$  screening levels with a DAF=10 at TT-21; and above MCL soil screening values based on a non-conservative DAF=10 at TT7, TT9, TT19, TT20 and TT23. Cis-1,2-DCE was also detected in landfill materials above EPA soil screening levels for groundwater protection equal to a hazard index of 1 using a DAF=10 at test trench TT-21. Chlorinated solvents were found above more conservative screening values (e.g., cancer risk of  $10^{-5}$  or  $10^{-6}$  with a DAF=1) in nine other test pits/test trenches: TP2, TP3, TP4, TP5, TP6, TT5, TT10, TT11 and TT12; making chlorinated solvents present in 17 out of 28 SDDL test pit/test trench locations.

CRA's 2009 soil gas data also indicates the widespread presence of chlorinated solvents at the Site. Vinyl chloride was detected above OSWER  $10^{-4}$  soil vapor criteria (non-conservative) at 6 out of 21 on-Site soil gas probe locations (see Figure 2 in Attachment 3). TCE was detected above  $10^{-4}$  soil vapor criteria (non-conservative) at 8 out of 21 on-Site gas probe locations. Cis-1,2-DCE was also detected above OSWER soil vapor criteria equal to a hazard index of 1 at three on-Site gas probe locations. Chlorinated solvents were detected above more conservative OSWER soil vapor criteria ( $10^{-5}$  or  $10^{-6}$  cancer risk) at eight other locations; making chlorinated solvents present in 19 out of 21 on-Site gas probe locations.

The highest concentration of chlorinated solvents was detected in landfill gas probe GP20-09. TCE was detected in GP20-09 at a concentration of 56,000 ug/m<sup>3</sup>, which corresponds to a cancer risk of  $2 \times 10^{-1}$ . Cis-1,2-DCE was also detected in GP20-09 at a concentration of 16,000 ug/m<sup>3</sup>, which corresponds to a non-cancer hazard index of 45.

The highest concentration of TCE in groundwater (5,100 ug/L) was found in a shallow groundwater sample (27-32 feet below ground surface) collected below the landfill from

VAS-09, 400 feet east of Dryden Road. Although this concentration was not verified by groundwater samples from MW-215A, installed near the VAS-09 location, the VAS sample that contained 5,100 ug/L TCE was screened approximately 2.5 feet in the bottom of a sand and gravel unit and 2.5 feet into an underlying till unit. MW-215A,

however, was screened in the middle of the sand and gravel unit 4 feet above the top of the till unit, and may have missed what could be a narrow band of TCE contamination on top of the till. Also, MW-215A has a longer screen length (19 to 29 feet below ground surface) than the screen used during the VAS (5 feet), which could result in considerable dilution.

Starting in July 2009, CRA began to include river elevations collected from the Dryden Road Bridge on its groundwater flow maps. The new data indicates groundwater flow in the vicinity of MW-215A is (at least on the dates the elevations were collected) partly to the north, northeast and possibly to the east. This may establish hydraulic gradients for the transport of chlorinated solvents to the east and northeast from the Site toward the DPL property.

This new flow data is consistent with chemical data collected from on-Site monitoring well MW-216, on the west side of Dryden Road, compared to data from MW-221 at DPL, on the east side of Dryden Road, approximately 200 feet east-southeast of MW-216. During the January 2010 sampling event, on-Site monitoring well MW-216 contained 650 ug/L of cis-1,2-DCE and 92 ug/L of vinyl chloride. Conversely, MW-221 at DPL across the street from MW-216, contained 420 ug/L of cis-1,2-DCE and 53 ug/L of vinyl chloride.

Data from the Valley Asphalt drums and CRA's 2008 test pit/test trench data also indicate the SDDL as a source of benzene. A drum sample CRA collected from test trench TT21 in the vicinity of the Valley Asphalt drum removal was RCRA characteristic for benzene (sample concentration of benzene 1.1 mg/L; RCRA TCLP limit for benzene 0.5 mg/L). CRA's 2008 test pit/test trench data also shows landfill material at three locations (TP5, TT21 and TT22) contains benzene above EPA soil screening values for groundwater protection based on a non-conservative cancer risk of  $10^{-4}$  and DAF=10 (see Table 1). Benzene was also detected in landfill materials above soil screening values based on MCLs and a non-conservative DAF=10 at TT7 and TT9; and was just below the MCL soil screening value at TP3. Benzene was present above more conservative screening values (cancer risk of  $10^{-5}$  or  $10^{-6}$  with a DAF=1) at TP6, TT8 and TT19.

CRA's 2009 soil gas data also indicates the widespread presence of benzene at the Site. Benzene was detected above OSWER  $10^{-4}$  soil vapor criteria (non-conservative) at two on-Site soil gas probe locations (GP01-09 and GP18-09) (see Figure 2 in Attachment 3). Benzene was detected above more conservative OSWER  $10^{-5}$  or  $10^{-6}$  soil gas criteria at five other on-Site locations (GP02-09, GP04-09, GP15-09, GP17-09, GP19-09 and GP21-09). Benzene was also detected in on-Site soil gas at 8 other

locations below screening criteria; making benzene present in 16 out of 21 on-Site gas probe locations.

The highest concentration of benzene was detected in landfill gas probe GP18-09. The concentration of benzene in GP18-09 was 14,000 ug/m<sup>3</sup>, which corresponds to a cancer risk of  $4 \times 10^{-3}$ .

This data supports addressing on-Site groundwater consistent with the scope of the streamlined OU1 FS outlined in EPA's January 9, 2008 letter. CRA must evaluate remedial alternatives to contain groundwater at the perimeter of the landfill that exceeds MCLs or unacceptable risk levels. CRA had two years to collect additional data to further define the source(s), nature and extent of groundwater contamination and investigate the broader impacts of the groundwater contamination at the Site. However, CRA did not collect this data.

EPA is also uncertain why an on-Site groundwater containment remedy would exacerbate any future remediation of off-Site groundwater impacts. Remedial alternatives would have a minimal impact on off-Site groundwater (e.g., minimal disruption of off-Site hydraulic gradients). Remedial technologies that could be implemented at the Site (and that should be evaluated in the streamlined OU1 FS) include air sparging, enhanced biodegradation, permeable reactive barriers and physical barriers.

As previously indicated, EPA is willing to continue to work with the Respondents to continue with OU1 data collection activities. EPA will then consider this data, as appropriate, during RD/RA; or, as support for a change in EPA's OU1 Proposed Plan or ROD, or as support for a ROD Amendment or an Explanation of Significant Difference.

### Conclusion

EPA looks forward to meeting with CRA and the Respondents at EPA's offices in Chicago on February 24, 2010. We also look forward to working with CRA and the Respondents to complete the streamlined OU1 RI/FS and conventional OU2 RI/FS for the SDDL Site in a timely manner. As such, Respondents must notify EPA in writing by February 28, 2010, of their willingness to complete the streamlined OU1 RI/FS and conventional OU2 RI/FS by March 31, 2010. In the response the Respondents must commit that the submittals will be consistent with EPA's January 9, 2008 letter and will include CRA's 2008-2010 field investigations and results. The Respondents letter must also include a schedule for completing the conventional OU2 RI/FS, including a submission date no later than April 30, 2010 for the OU2 RI/FS Work Plan.

EPA sincerely hopes the Respondents are willing to complete the OU1 reports and OU2 investigations. If not, EPA will pursue its other options pursuant to Section X of the Administrative Settlement Agreement and Order on Consent for moving the Site forward, and for completing the streamlined OU1 RI/FS and conventional OU2 RI/FS.

If you have any questions or would like to discuss the Site further before our February 24, 2010 meeting, please feel free to contact me at 312-886-1843 or via email at [cibulskis.karen@epa.gov](mailto:cibulskis.karen@epa.gov). Legal questions should be directed to EPA attorney Tom Nash at 312-886-0552 or via email at [nash.thomas@epa.gov](mailto:nash.thomas@epa.gov).

Sincerely,



Karen Cibulskis  
EPA Remedial Project Manager

Cc (via email): Tim Prendiville, SR-6J  
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TABLE 1

**SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO**

			Sample Location:	TP-2	TP-3	TP-3	TP-3
			Sample ID:	S-38443-092408-KMV-006	S-38443-092408-KMV-008	S-38443-092408-KMV-009	S-38443-092408-KMV-011
			Sample Date:	9/24/2008	9/24/2008	9/24/2008	9/24/2008
			Sample Depth:	5 ft BGS	8.7 ft BGS	10.4 ft BGS	16 ft BGS
			Regional Screening Level				
			MCL DAF=10	10-4 Risk DAF=10			
Parameter	Units						
<b>Volatile Organic Compounds</b>							
1,1,1-Trichloroethane	µg/kg	701	32,000	2.1 J			18000 U
1,1-Dichloroethane	µg/kg		687			220 J	18000 U
1,1-Dichloroethene	µg/kg	25.1	1,200				18000 U
Benzene	µg/kg	25.6	211		23 J	21 J	18000 U
cis-1,2-Dichloroethene	µg/kg	206	1,070				18000 U
Tetrachloroethene	µg/kg	22	49.2			25 J	18000 U
trans-1,2-Dichloroethene	µg/kg	294	314				18000 U
Trichloroethene	µg/kg	17.9	717				18000 U
Vinyl chloride	µg/kg	6.9	5.58				18000 U
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer risk or hazard index >1.0 with DAF=10							



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TP-4	TP-5	TP-5	TP-6
		Sample ID:		S-38443-092408-KMV-014	S-38443-100608-KMV-055	S-38443-100608-KMV-056	S-38443-100608-KMV-058
		Sample Date:		9/24/2008	10/6/2008	10/6/2008	10/6/2008
		Sample Depth:		18.6 ft BGS	12 ft BGS	17 ft BGS	20 ft BGS
		Regional Screening Level					
		MCL DAF=10	10-4 Risk DAF=10				
Parameter	Units						
<b>Volatile Organic Compounds</b>							
1,1,1-Trichloroethane	µg/kg	701	32,000				
1,1-Dichloroethane	µg/kg		687	1.0 J			
1,1-Dichloroethene	µg/kg	25.1	1,200				
Benzene	µg/kg	25.6	211		260 J	0.67 J	0.36 J
cis-1,2-Dichloroethene	µg/kg	206	1,070				1.7 J
Tetrachloroethene	µg/kg	22	49.2				
trans-1,2-Dichloroethene	µg/kg	294	314				0.53 J
Trichloroethene	µg/kg	17.9	717		16 J		0.68 J
Vinyl chloride	µg/kg	6.9	5.58				0.58 J
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer risk							

TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-5	TT-5	TT-5
		Sample ID:		S-38443-093008-KMV-029	S-38443-093008-KMV-030	S-38443-093008-KMV-031
		Sample Date:		9/30/2008	9/30/2008	9/30/2008
		Sample Depth:		3 ft BGS	7 ft BGS	14 ft BGS
		Regional Screening Level				
		MCL DAF=10	10-4 Risk DAF=10			
Parameter	Units					
<b><u>Volatile Organic Compounds</u></b>						
1,1,1-Trichloroethane	µg/kg	701	32,000			
1,1-Dichloroethane	µg/kg		687			
1,1-Dichloroethene	µg/kg	25.1	1,200			
Benzene	µg/kg	25.6	211			
cis-1,2-Dichloroethene	µg/kg	206	1,070			
Tetrachloroethene	µg/kg	22	49.2		4.5 J	20 J
trans-1,2-Dichloroethene	µg/kg	294	314			
Trichloroethene	µg/kg	17.9	717	1.0 J	4.9 J	9.7
Vinyl chloride	µg/kg	6.9	5.58			
NOTES:						
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10						
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer risk						

TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-5	TT-5	TT-7
		Sample ID:		S-38443-093008-KMV-031-D	S-38443-093008-KMV-032	S-38443-100708-KMV-061
		Sample Date:		9/30/2008	9/30/2008	10/7/2008
		Sample Depth:		14 ft BGS	17 ft BGS	6 ft BGS
		Regional Screening Level				
		MCL DAF=10	10-4 Risk DAF=10	Duplicate		
Parameter	Units					
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	µg/kg	701	32,000			1800 U
1,1-Dichloroethane	µg/kg		687			1800 U
1,1-Dichloroethene	µg/kg	25.1	1,200			1800 U
Benzene	µg/kg	25.6	211			1800 U
cis-1,2-Dichloroethene	µg/kg	206	1,070		0.62 J	1800 U
Tetrachloroethene	µg/kg	22	49.2	1.9 J		1800 U
trans-1,2-Dichloroethene	µg/kg	294	314			1800 U
Trichloroethene	µg/kg	17.9	717	3.3 J	1.7 J	1800 U
Vinyl chloride	µg/kg	6.9	5.58			1800 U
NOTES:						
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10						
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer						



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

			Sample Location:	TT-7	TT-8	TT-8
			Sample ID:	S-38443-100708-KMV-063	S-38443-100608-KMV-050	S-38443-100608-KMV-050-D
			Sample Date:	10/7/2008	10/6/2008	10/6/2008
			Sample Depth:	16 ft BGS	4 ft BGS	4 ft BGS
			Regional Screening Level			
			MCL DAF=10	10-4 Risk DAF=10		Duplicate
Parameter	Units					
<u>Volatile Organic Compounds</u>						
1,1,1-Trichloroethane	µg/kg	701	32,000			
1,1-Dichloroethane	µg/kg		687		5.0 J	36 J
1,1-Dichloroethene	µg/kg	25.1	1,200		0.89 J	4.6 J
Benzene	µg/kg	25.6	211	94 J	1.3 J	2.0 J
cis-1,2-Dichloroethene	µg/kg	206	1,070	20 J	4.5 J	21 J
Tetrachloroethene	µg/kg	22	49.2			
trans-1,2-Dichloroethene	µg/kg	294	314			
Trichloroethene	µg/kg	17.9	717	240 J	6.7	5.3 J
Vinyl chloride	µg/kg	6.9	5.58		5.5 J	54 J
NOTES:						
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10						
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer risk						



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

			Sample Location:	TT-8	TT-9	TT-9	TT-9
			Sample ID:	S-38443-100608-KMV-051	S-38443-100308-KMV-047	S-38443-100308-KMV-048	S-38443-100308-KMV-049
			Sample Date:	10/6/2008	10/3/2008	10/3/2008	10/3/2008
			Sample Depth:	15 ft BGS	7 ft BGS	17 ft BGS	22 ft BGS
			Regional Screening Level				
			MCL DAF=10	10-4 Risk DAF=10			
Parameter	Units						
<u>Volatile Organic Compounds</u>							
1,1,1-Trichloroethane	µg/kg	701	32,000				
1,1-Dichloroethane	µg/kg		687	1.1 J	240 J	46 J	
1,1-Dichloroethene	µg/kg	25.1	1,200				
Benzene	µg/kg	25.6	211		150 J	130 J	
cis-1,2-Dichloroethene	µg/kg	206	1,070	0.63 J	890	590 J	330 J
Tetrachloroethene	µg/kg	22	49.2				
trans-1,2-Dichloroethene	µg/kg	294	314				
Trichloroethene	µg/kg	17.9	717		350 J	670 J	420 J
Vinyl chloride	µg/kg	6.9	5.58		220 J	180 J	
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer r							

TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-10	TT-10	TT-11	TT-12
		Sample ID:		S-38443-100308-KMV-045	S-38443-100308-KMV-046	S-38443-100208-KMV-043	S-38443-100208-KMV-040
		Sample Date:		10/3/2008	10/3/2008	10/2/2008	10/2/2008
		Sample Depth:		10 ft BGS	15 ft BGS	21 ft BGS	21 ft BGS
		Regional Screening Level					
		MCL DAF=10	10-4 Risk DAF=10				
Parameter	Units						
<b><u>Volatile Organic Compounds</u></b>							
1,1,1-Trichloroethane	µg/kg	701	32,000				
1,1-Dichloroethane	µg/kg		687				
1,1-Dichloroethene	µg/kg	25.1	1,200				
Benzene	µg/kg	25.6	211				
cis-1,2-Dichloroethene	µg/kg	206	1,070				0.30 J
Tetrachloroethene	µg/kg	22	49.2	4.8 J	4.7 J		
trans-1,2-Dichloroethene	µg/kg	294	314				
Trichloroethene	µg/kg	17.9	717			10	1.1 J
Vinyl chloride	µg/kg	6.9	5.58				
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer r							



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-18	TT-19	TT-20
		Sample ID:		S-38443-100108-KMV-036	S-38443-100708-KMV-059	S-38443-100708-KMV-065-D
		Sample Date:		10/1/2008	10/7/2008	10/7/2008
		Sample Depth:		5 ft BGS	7 ft BGS	7 ft BGS
		Regional Screening Level				
		MCL DAF=10	10-4 Risk DAF=10			
Parameter	Units					
<b><u>Volatile Organic Compounds</u></b>						
1,1,1-Trichloroethane	µg/kg	701	32,000	R	2.7 J	
1,1-Dichloroethane	µg/kg		687	R		
1,1-Dichloroethene	µg/kg	25.1	1,200	R		
Benzene	µg/kg	25.6	211	R	1.0 J	
cis-1,2-Dichloroethene	µg/kg	206	1,070	R		
Tetrachloroethene	µg/kg	22	49.2	R	1.6 J	2500 J
trans-1,2-Dichloroethene	µg/kg	294	314	R		
Trichloroethene	µg/kg	17.9	717	R	29	60 J
Vinyl chloride	µg/kg	6.9	5.58	R		
NOTES:						
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10						
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer						



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-20	TT-21	TT-21	TT-21
		Sample ID:		S-38443-100708-KMV-064	S-38443-100808-KMV-070	S-38443-100808-KMV-068	S-38443-100808-KMV-069
		Sample Date:		10/7/2008	10/8/2008	10/8/2008	10/8/2008
		Sample Depth:		15 ft BGS	7 ft BGS	8 ft BGS	21 ft BGS
		Regional Screening Level					
		MCL DAF=10	10-4 Risk DAF=10				
Parameter	Units						
<b><u>Volatile Organic Compounds</u></b>							
1,1,1-Trichloroethane	µg/kg	701	32,000		11000 U		
1,1-Dichloroethane	µg/kg		687		11000 U		
1,1-Dichloroethene	µg/kg	25.1	1,200		11000 U		
Benzene	µg/kg	25.6	211		12000	210 J	360 J
cis-1,2-Dichloroethene	µg/kg	206	1,070		11000 U	690	1400
Tetrachloroethene	µg/kg	22	49.2	57	11000 U		
trans-1,2-Dichloroethene	µg/kg	294	314		11000 U	56 J	130 J
Trichloroethene	µg/kg	17.9	717		11000 U	400	790 J
Vinyl chloride	µg/kg	6.9	5.58		11000 U	130 J	490 J
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer risk							



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

			Sample Location:	TT-22	TT-22	TT-23	TT-23
			Sample ID:	S-38443-100808-KMV-066	S-38443-100808-KMV-067	S-38443-100608-KMV-052	S-38443-100608-KMV-053
			Sample Date:	10/8/2008	10/8/2008	10/6/2008	10/6/2008
			Sample Depth:	6 ft BGS	21 ft BGS	7 ft BGS	18 ft BGS
			Regional Screening Level				
			MCL DAF=10	10-4 Risk DAF=10			
Parameter	Units						
<u>Volatile Organic Compounds</u>							
1,1,1-Trichloroethane	µg/kg	701	32,000				
1,1-Dichloroethane	µg/kg		687		66 J		
1,1-Dichloroethene	µg/kg	25.1	1,200				
Benzene	µg/kg	25.6	211	530 J	290 J		
cis-1,2-Dichloroethene	µg/kg	206	1,070	150 J		16	
Tetrachloroethene	µg/kg	22	49.2				
trans-1,2-Dichloroethene	µg/kg	294	314				
Trichloroethene	µg/kg	17.9	717			31	0.62 J
Vinyl chloride	µg/kg	6.9	5.58		61 J		
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer risk							

## **ATTACHMENT 1**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.



287698

SENT VIA FEDEX

January 9, 2008

REPLY TO THE ATTENTION OF

Steve Quigley, P.E.  
Principal-in-Charge/Project Manager  
Conestoga-Rovers & Associates Ltd. (CRA)  
651 Colby Drive  
Waterloo, Ontario N2V 1C2

RE: U.S. EPA Comments on Remedial Investigation/Feasibility Study Work Plan, U.S. EPA's Streamlined Risk Assessment, and Proposal for Streamlined Remedial Investigation/Feasibility Study for South Dayton Dump and Landfill Site, Moraine, Ohio

Dear Mr. Quigley:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of Conestoga-Rovers & Associates (CRA) Remedial Investigation/Feasibility Study (RI/FS) Work Plan for the South Dayton Dump and Landfill (SDDL) Site in Moraine, Ohio.

Unfortunately, the RI/FS Work Plan contains a significant number of substantial deficiencies and U.S. EPA cannot approve the RI/FS Work Plan at this time.

Many of the deficiencies in the RI/FS Work Plan concern comments U.S. EPA provided to CRA on CRA's 2005 Scoping Report and CRA's 2006 Preliminary Remedial Action Objectives Technical Memorandum (PRAO Tech Memo). In general, the RI/FS Work Plan:

1. Does not address RI/FS Scope of Work (SOW) objectives and requirements;
2. Does not follow the data objectives quality process to develop the scope of the RI/FS and field work; and
3. Presents inaccurate background information and disregards Site findings.

U.S. EPA's comments on the RI/FS Work Plan are in Attachment 1.

U.S. EPA is very concerned about the substantial number of comments U.S. EPA continues to have on CRA Site-related documents (90 comments on

Scoping Report, 125 comments on PRAO Tech Memo and 343 comments on RI/FS Work Plan). This poses a significant impediment to Site progress.

Based on the scope of U.S. EPA's comments on the RI/FS Work Plan, U.S. EPA began to consider whether an alternate approach to address the SDDL Site might be more appropriate. Specifically, U.S. EPA began to consider whether U.S. EPA's presumptive remedy for municipal landfill sites (i.e., containment of the source area, including, but not limited to, landfill contents and on-Site groundwater) could be applied to the SDDL.

U.S. EPA evaluated whether a streamlined risk assessment (SRA) could be conducted for the Site, and whether, consistent with U.S. EPA policy and guidance, the SRA would be able to clearly indicate whether remedial action (i.e., a containment remedy) is warranted at the Site (see *Presumptive Remedy for CERCLA Municipal Landfill Sites*, Office of Solid Waste and Emergency Response Directive 9355.0-49FS).

The substantial amount of information, data, tables and figures in CRA's RI/FS Work Plan (in conjunction with U.S. EPA's comments on the RI/FS Work Plan) allowed U.S. EPA to conduct a SRA for the landfill source area of the Site. U.S. EPA's SRA addresses, but is not limited to, landfill contents and on-Site groundwater. A copy of U.S. EPA's SRA is in Attachment 2.

U.S. EPA's SRA indicates existing groundwater, soil and sediment data demonstrate the Site poses an unacceptable risk to human health and the environment and clearly warrants remedial action (i.e., a containment remedy). Consistent with U.S. EPA guidance, the SRA provides clear justification to implement response actions to address the following pathways at the Site:

- Prevent direct contact with landfill contents
- Minimize infiltration through landfill contents and resulting contaminant leaching to groundwater
- Control surface water runoff and erosion, including erosion during flooding from the adjacent Great Miami River
- Collect and treat and/or contain contaminated groundwater and any leachate and prevent further migration from the source area
- Control and treat landfill gas if necessary.

Based on the SRA, U.S. EPA believes there is sufficient information in CRA's RI/FS Work Plan, U.S. EPA's review comments and the SRA to streamline the RI/FS for the landfill source area of the Site (Operable Unit 1 or OU1). At this time, U.S. EPA respectfully requests CRA consider U.S. EPA's streamlining approach for the Site, and move forward with preparing a streamlined RI/FS report to address the risks identified by the SRA.

U.S. EPA expects CRA's streamlined RI report for OU1 would be very similar to CRA's RI/FS Work Plan Sections 1.0 (Introduction) to 3.2.3 (Exposure Pathways), revised to address U.S. EPA's comments on the RI/FS Work Plan (as superseded by the SRA); and would include U.S. EPA's SRA.

U.S. EPA expects CRA's streamlined FS for OU1 would then evaluate presumptive remedy alternatives to:

- Contain landfill contents to: prevent direct contact with landfilled materials; minimize infiltration and resultant contaminant leaching to groundwater; and prevent landfilled contents and contaminants from being transported to the Quarry Pond, to the Great Miami River and 100-year floodplain areas of the Great Miami River, and to any other areas outside the landfill. This will include: landfill contents throughout the 80-acre Site (as defined in the RI/FS Statement of Work) including Site areas with buildings and business operations and the Quarry Pond; landfill contents in off-Site areas - e.g., Lot 3278, Lot 3056, Lot 3057 and Lot 3275; and landfill contents in any other possible off-Site areas.
- Prevent exposure to any contamination in on-Site Valley Asphalt wells (one reported to be used as potable water supply) that exceeds Maximum Contaminant Levels and/or poses a cumulative cancer risk greater than  $1 \times 10^{-4}$  or a noncancer hazard index greater than 1.0 based on reasonable maximum industrial exposure.
- Contain groundwater contamination at the perimeter of the landfill that exceeds Maximum Contaminant Levels and/or poses a cumulative cancer risk greater than  $1 \times 10^{-4}$  and/or a noncancer hazard index greater than 1.0 based on reasonable maximum residential exposure.
- Contain leachate (if necessary)
- Prevent exposure to unacceptable levels of landfill/soil gas and unacceptable levels of soil vapors from groundwater within/beneath the landfill. This will include: areas where receptors may be exposed to landfill/soil gas and soil vapors from groundwater within the landfilled area; containing landfill/soil gas and soil vapors from groundwater at the perimeter of the landfill; and preventing landfill/gas soil vapors from accumulating at unacceptable levels under the landfill cap.

Consistent with U.S. EPA policy and guidance, CRA would then address off-Site areas not addressed by the presumptive remedy (Operable Unit 2 or OU2) through a conventional (i.e., not streamlined) RI/FS, Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA). CRA's RI/FS,

**HHRA and ERA for OU2 would be consistent with the RI/FS SOW and would address:**

- **Soil contamination in areas outside the landfill (e.g., Great Miami River floodplain/recreational areas, properties surrounding Site)**
- **Surface water and sediment contamination in the Great Miami River, including sediment contamination in areas adjacent to the Site and other areas of the Great Miami River that are or may be impacted by the Site (e.g., groundwater discharge areas)**
- **Surface water and sediment contamination in any other surface water bodies or wetlands that are or may be impacted by the Site (e.g., through past erosion/overland flow, sediment transport, groundwater discharge)**
- **Groundwater contamination outside the perimeter of the landfill, including exposure to any soil vapors from groundwater**
- **Ecological investigations (areas outside landfill)**

**Consistent with U.S. EPA's presumptive remedy policy and guidance, U.S. EPA respectfully proposes the Respondents conduct the following Work in lieu of the extensive field work proposed in CRA's RI/FS Work Plan that is no longer necessary:**

1. **Revise Sections 1.0 (Introduction) to 3.2.3 (Exposure Pathways) of CRA's RI/FS Work Plan to address U.S. EPA's comments on the RI/FS Work Plan (as superseded by the SRA). Submit this document to U.S. EPA and the Ohio Environmental Protection Agency (OEPA) as the Streamlined OU1 RI Report (OU1 RI). Incorporate U.S. EPA's attached OU1 SRA into the OU1 RI, and describe the OU1 presumptive remedy RI/FS approach and the OU2 RI/FS approach described in this letter in the OU1 RI. Proposed submission date: 30 days after Respondents' acceptance of proposed Work.**
2. **Conduct a streamlined FS to evaluate presumptive remedy alternatives for the source control measures and other OU1 remedial measures described in this letter and U.S. EPA's SRA. Submit the Streamlined OU1 FS Report to U.S. EPA and OEPA for review/approval. Proposed submission date: 90 days after Respondents' acceptance of proposed Work.**
3. **Prepare and implement a RI/FS OU2 Work Plan, Field Sampling Plan (FSP), Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP) to address OU2 investigation tasks described in this letter consistent with RI/FS SOW requirements and objectives, U.S. EPA's comments on CRA's RI/FS Work Plan (as superseded by the SRA), and U.S. EPA's comments on CRA's FSP, QAPP and HASP (to be submitted under separate cover). The OU2 Work Plan must consider existing sediment data which already indicates sediment in the Great Miami River**

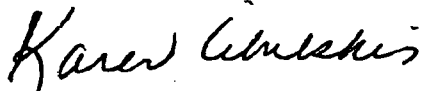
adjacent to the Site exceeds Probable Effects Concentrations and indicates more thorough sampling and ecological investigation in the river is warranted. The OU2 Work Plan must also consider that chemical concentrations in 100 year floodplain soils protective of human health may exceed chemical concentrations protective for sediments, and may indicate these soils need to be prevented from being transported into the river through erosion and flooding. The OU2 Work Plan must also discuss the elements of the OU1 presumptive remedy described in this letter to explain the focus of the OU2 investigation. Proposed submission date: 120 days after Respondents' acceptance of proposed Work.

U.S. EPA sincerely appreciates CRA's efforts on the SDDL Site and looks forward to continuing to work with CRA, Illinois Tool Works (ITW) and the other Respondents toward completing a streamlined RI/FS for OU1 and the RI/FS for OU2 at the Site.

Section IX, Work to Be Performed of the Administrative Settlement Agreement and Order on Consent gives the Respondents 7 days to confirm their willingness to perform additional Work proposed by U.S. EPA in writing. However, U.S. EPA recognizes that 7 days may not provide CRA and the Respondents with adequate time to review U.S. EPA's SRA and consider U.S. EPA's proposal. During this time U.S. EPA would also like to meet with CRA and the Respondents to discuss the proposed OU1 RI/FS, a RI/FS for OU2 and U.S. EPA's comments on CRA's RI/FS Work Plan. As such, U.S. EPA is willing to extend this time frame for an additional 21 days. Please confirm the Respondents' willingness to perform U.S. EPA's proposed Work for OU1 and OU2 described above in writing on or before February 11, 2008. Based on the circumstances, and, at the Respondents' request, U.S. EPA may also agree to extend this time frame for a reasonable amount of additional time.

U.S. EPA looks forward to meeting with CRA, ITW and the other Respondents to discuss the SDDL and the direction of the Site. Please contact me at 312-886-1843 or via email at [cibulskis.karen@epa.gov](mailto:cibulskis.karen@epa.gov) at your earliest convenience to arrange for a meeting. If you have any legal questions, please direct them to Tom Nash, Associate Regional Counsel at 312-886-0552 or via email at [nash.thomas@epa.gov](mailto:nash.thomas@epa.gov).

Sincerely,



Karen Cibulskis  
Remedial Project Manager

cc: Ken Brown, ITW (via FedEx)  
Matt Justice, OEPA (Cover Letter and Attachment 1)

**Matt Mankowski, SR-6J**  
**Tom Nash, C-14J**  
**Luanne Vanderpool, SRF-5J**  
**Aff Marouf, SR-6J**  
**David Brauner, SR-6J**  
**Eric Kroger, CH2M Hill (via FedEx)**



## **ATTACHMENT 2**

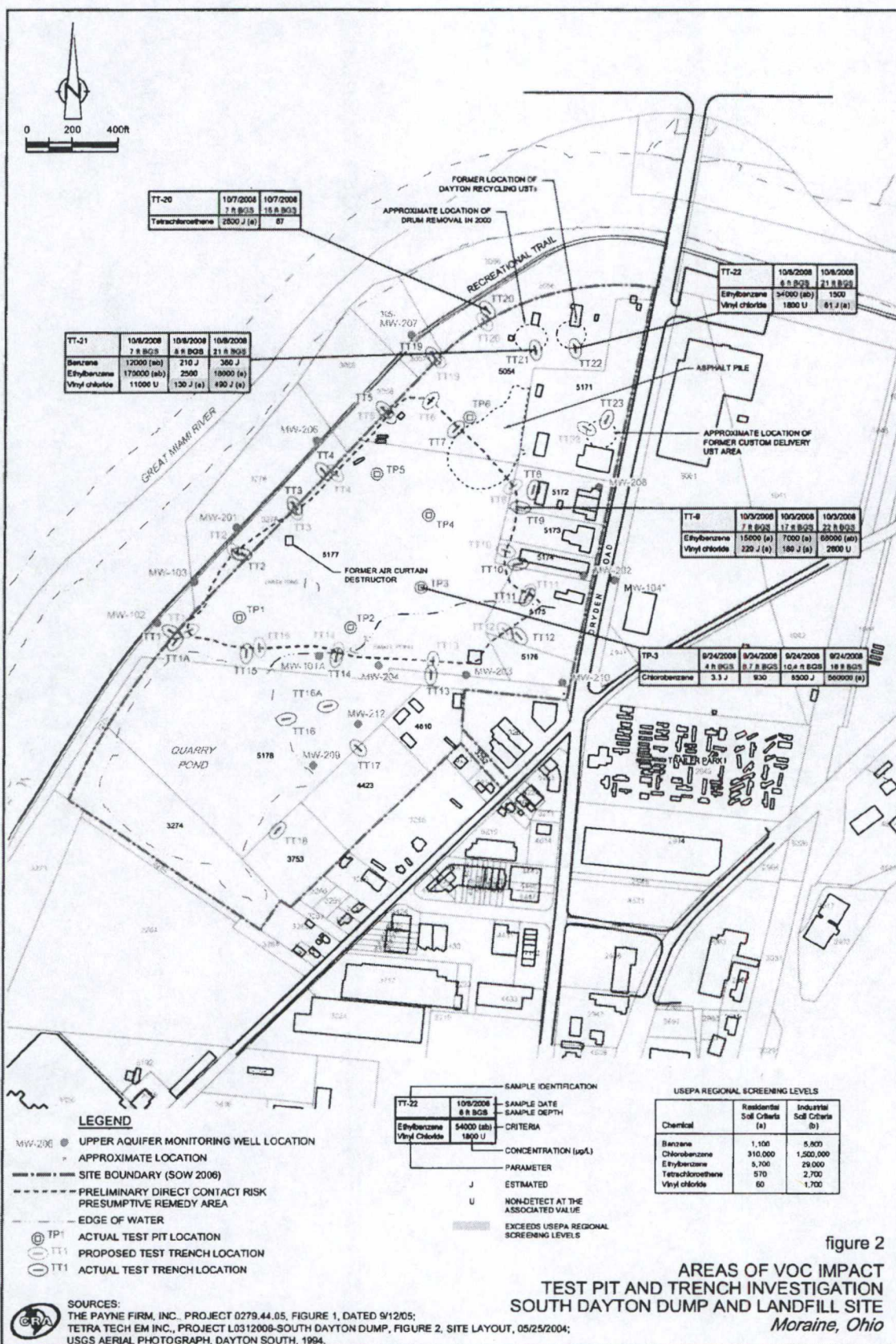
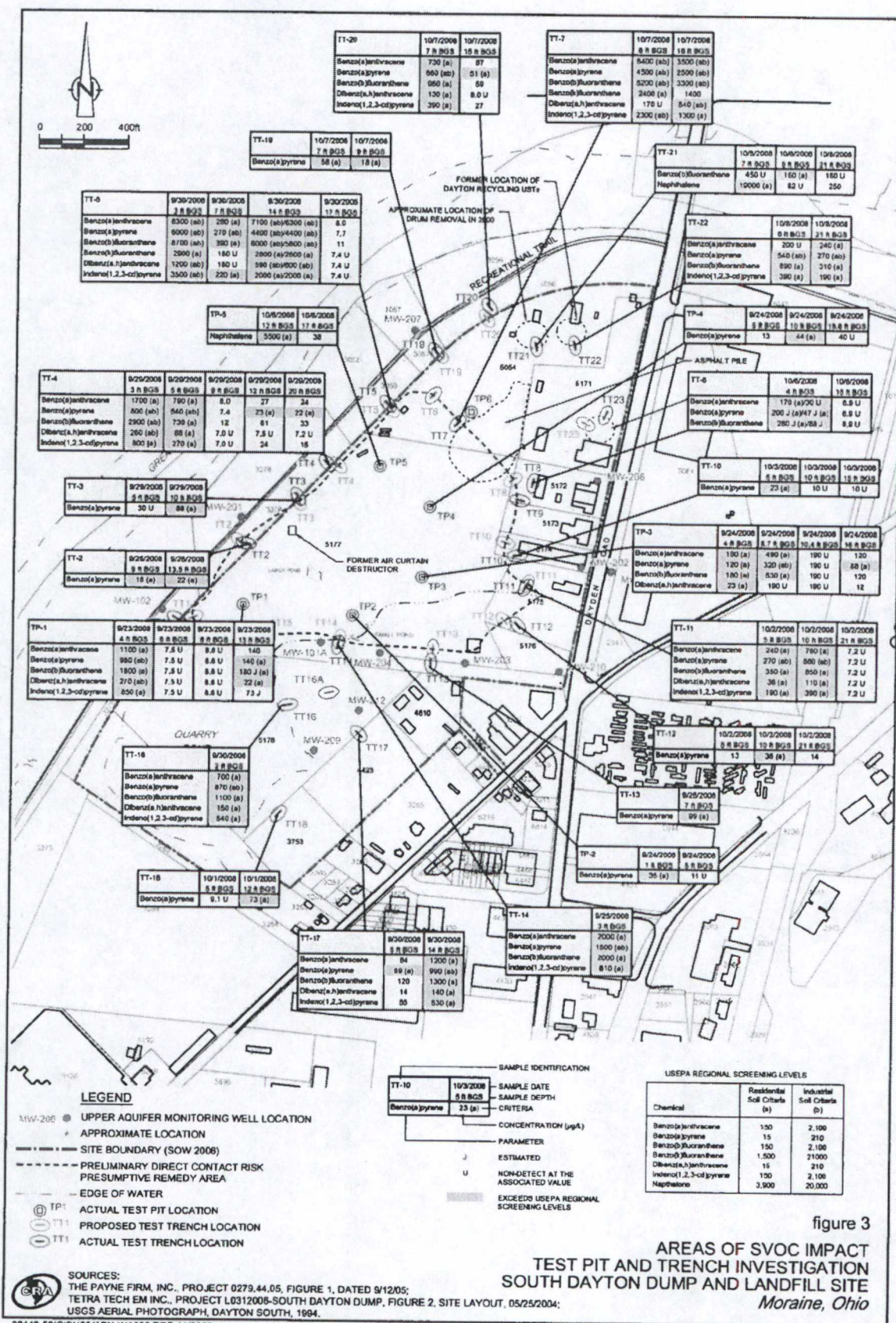


figure 2

AREAS OF VOC IMPACT  
TEST PIT AND TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL SITE  
Moraine, Ohio







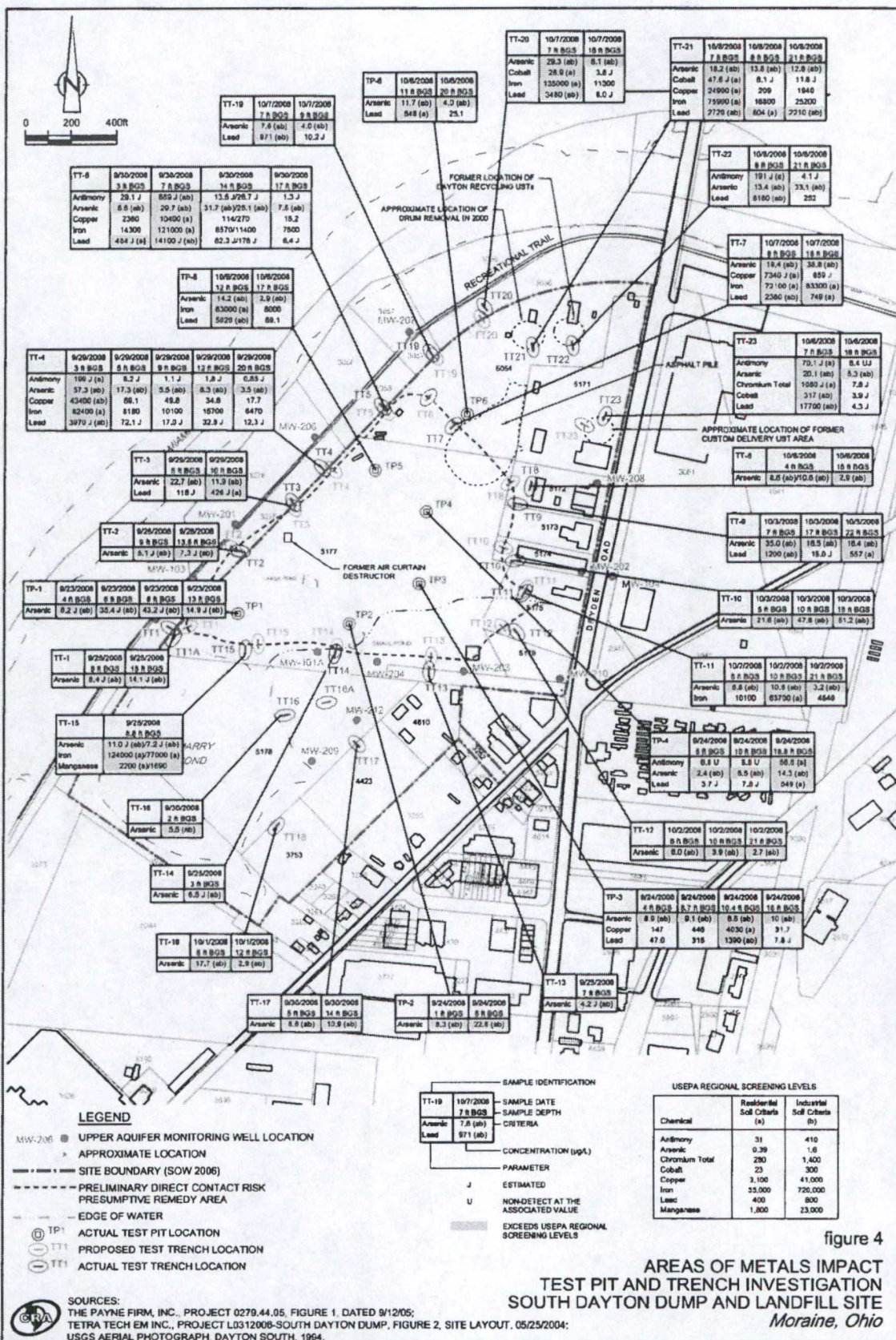


figure 4

AREAS OF METALS IMPACT  
TEST PIT AND TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL SITE  
Moraine, Ohio





## **ATTACHMENT 3**



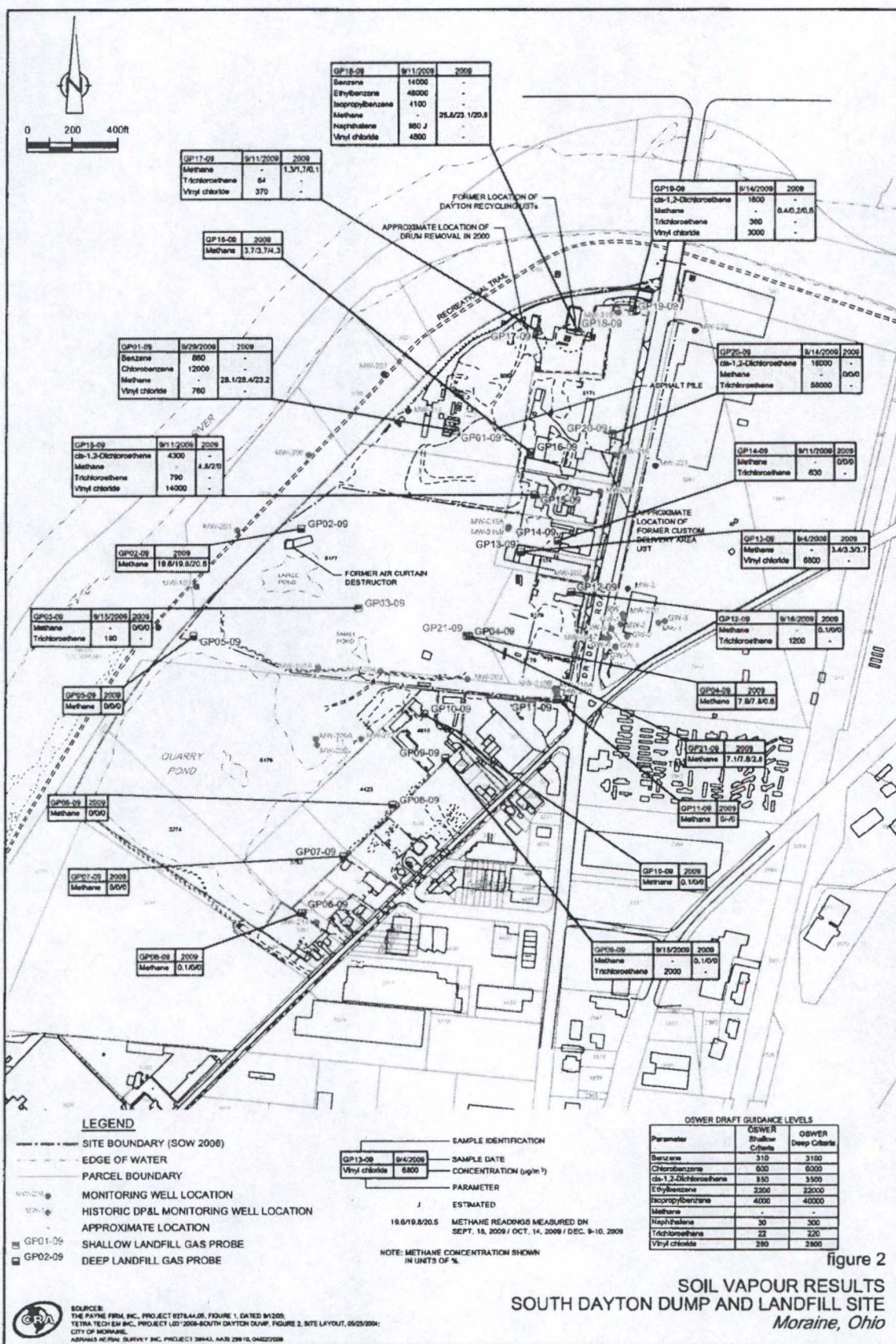


figure 2

# SOIL VAPOUR RESULTS SOUTH DAYTON DUMP AND LANDFILL SITE Moraine, Ohio



**CONESTOGA-ROVERS  
& ASSOCIATES**

8615 W. Bryn Mawr Avenue, Chicago, IL 60631-3501  
Telephone: (773) 380-9933 Fax: (773) 380-6421  
www.CRAworld.com

April 1, 2010

Reference No. 038443

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency - Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Agreed Upon Scope of Streamlined and Conventional Feasibility Study (FS) Reports  
Administrative Settlement Agreement and Order on Consent (ASAOC)  
Docket Number V-W-06-C-582  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

This letter documents the discussions between the United States Environmental Protection Agency (USEPA) and the ASAOC Respondents regarding the proposed scope for the Streamlined Feasibility Study (FS) for the Site. Conestoga-Rovers & Associates (CRA) has prepared this letter on behalf of the ASAOC Respondents with review and comment by USEPA.

On February 24, 2010, representatives of the USEPA, the Ohio Environmental Protection Agency (Ohio EPA), and the Respondents met to discuss the scope of the Streamlined FS and the conventional FS for the Site and the boundaries of operable unit one (OU1) and operable unit two (OU2). At the meeting, USEPA, Ohio EPA, and the Respondents agreed to the scope for the Streamlined OU1 FS and the conventional OU2 FS for the Site. On March 5, 2010, the Respondents submitted a draft letter summarizing the Respondents' understanding of the agreed upon scope for the Streamlined OU1 FS and the conventional OU2 FS for the Site. On March 15, 2010, the USEPA issued a letter providing comments on the Respondents' draft March 5, 2010 letter. This letter contains modifications to the March 5, 2010 draft letter to address some of the comments.

Streamlined Feasibility Study for OU1

OU1 comprises the Site as defined in the ASAOC as well as certain adjacent parcels upon which waste was placed by the Site operators. As discussed in the meeting, OU1 includes the Quarry Pond. Specifically, OU1 includes the following parcels (see attached Figure 1):

- Lot 5054 (Valley Asphalt)
- Lots 5171, 5172, 5173, 5174, 5175, 5176, 5177, and 5178 (Boesch and Grillot Plat)

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Reference No. 0038443-

- Lots 3753 and 4423 (Jim City Salvage)
- Lots 4610 and 3252 (Ronald Barnett)
- Lot 3274 and the portions of Lots 3278, 3056, 3057, 3058, and 3275 upon which waste has been placed (Miami Conservancy District)

The Streamlined OU1 FS will consider containment as the appropriate remedial approach for the landfill contents, and thus will evaluate capping and landfill gas and soil vapor requirements and will take into consideration the following:

- Human health and ecological risks posed by the contaminants present in these areas
- The nature of the waste disposed of on the various parcels in question
- The applicable or relevant and appropriate requirements (ARARs) specific to the types of waste disposed of at the Site
- The presence of active businesses on a number of the parcels

The Streamlined OU1 FS will also include an assessment of treatment options for shallow groundwater (i.e., nominally at an elevation above approximately 675 ft above mean sea level [ft AMSL] or above the first till layer, whichever is encountered first) beneath the Site<sup>1</sup>. As discussed, the assessment will focus on treatment options for addressing the sources of shallow groundwater contamination and will include options for addressing Site related contaminants if contaminants in the shallow groundwater are currently migrating off-Site such that MCLs, or in the absence of MCLs unacceptable risk levels (i.e., an excess lifetime cancer risk above  $1 \times 10^{-4}$  or a hazard index of 1), would be exceeded at current down-gradient receptors. Existing off-Site impacts will be addressed as part of the OU2 FS. The Streamlined FS will also include a scope of work for the additional investigation required to delineate the sources of shallow groundwater contamination in the areas discussed below.

The specific areas of shallow groundwater contamination that will be addressed as part of the OU1 FS are summarized below.

VAS-09

The Streamlined OU1 FS will evaluate remedial options for contamination at VAS-09/MW-215 above the till layer that is present between approximately 682 and 694 ft AMSL. Contamination

---

<sup>1</sup> As discussed during the meeting, the delineation of shallow groundwater is not absolute and where shallow OU1 groundwater contamination extends a short distance below 675 ft AMSL, the contamination below 675 ft AMSL would also be remediated where feasible.



**CONESTOGA-ROVERS  
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below the till layer will be addressed as part of the deeper groundwater assessment completed in the conventional OU2 RI/FS.

VAS-04/MW-219 LNAPL

The Streamlined OU1 FS will evaluate remedial options for the light, non-aqueous phase liquid (LNAPL) in VAS-04, N1, S1, S2, W1, and W2, including a darker oily material at the base of W1. This area also includes constituents observed above MCLs and health screening levels in MW-219. The approximate elevation of the LNAPL in VAS-04 is 709 to 704 ft AMSL.

VAS-21/MW-210

The Streamlined OU1 FS will evaluate remedial options for the TCE contamination present in groundwater at MW-210 and contamination at VAS-21/MW-210 above the till layer, which is present between approximately 695/700 ft AMSL and 686 ft AMSL. Contamination below the till layer at 686 ft AMSL will be addressed as part of the deeper groundwater assessment completed in the conventional OU2 RI/FS.

VAS-08

The Streamlined OU1 FS will evaluate remedial options for the contamination present from the water table down to the till layer at VAS-08, which is present between approximately 671 and 675 ft AMSL. Contamination below the till layer at 671 to 675 ft AMSL will be addressed as part of the deeper groundwater assessment completed in the conventional OU2 RI/FS.

VAS-15

The Streamlined OU1 FS will evaluate remedial options for the contamination present from the water table to approximately 50 ft-bgs in VAS-15 (elevation 702-681 ft AMSL) where the concentrations of TCE decrease to below the MCL. Contamination below 681 ft AMSL will be addressed as part of the deeper groundwater assessment completed in the conventional OU2 RI/FS.

A letter work plan for additional investigation of the shallow groundwater contamination in the area of MW-210 was submitted to USEPA on March 16, 2010.

The Streamlined OU1 FS will include a risk assessment, ARARs analysis, remedial action objectives, alternatives array, and detailed evaluations of containment options for the landfill contents, landfill gas and soil vapor requirements, and remedial options for the shallow groundwater. The Remedial Investigation (RI) data reported in the various letter reports will be included in a single OU1 RI report.



**CONESTOGA-ROVERS  
& ASSOCIATES**

April 1, 2010

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Reference No. 0038443-

Conventional Feasibility Study for OU2

As agreed during the February 24, 2010 meeting, the scope of the conventional OU2 RI/FS will be in accordance with that detailed in the Statement of Work with some modification. Specifically, the conventional OU2 RI/FS will be completed for the following areas:

- Landfill material, surface, and subsurface soil and hot spots outside the OU1 Area (e.g., the floodplain area between the Site and the Great Miami River) attributable to historic Site activities
- Deeper groundwater (i.e., nominally at elevations below 675 ft AMSL) within and outside the OU1 Area
- Shallow groundwater outside, the OU1 Area
- Leachate outside the OU1 Area (e.g., the floodplain area between the Site and the Great Miami River)
- Landfill gas and soil vapor outside the OU1 Area
- Surface water and sediment outside the OU1 Area (e.g., the floodplain area between the Site and the Great Miami River)
- Air outside the OU1 Area

A conventional RI Report will be completed for OU2. The conventional OU2 FS will include a baseline risk assessment, ARARs analysis, remedial action objectives, alternatives array, and detailed evaluation of alternatives.

At the February 24, 2010 meeting, USEPA, Ohio EPA and the Respondents agreed to the following milestone dates:

- April 30, 2010: Submit streamlined OU1 RI/FS Report to USEPA
- May 3, 4, or 5, 2010: Meeting to discuss scope of OU2 RI/FS Work Plan
- May 31, 2010: Submit conventional OU2 RI/FS Work Plan to USEPA

During the preparation of the OU2 RI/FS Work Plan, the Respondents will prepare a schedule for the remaining investigative activities and the submission of the OU2 RI/FS Report.



**CONESTOGA-ROVERS  
& ASSOCIATES**

April 1, 2010

5

Reference No. 0038443-

In the meantime, please call the undersigned if you have any questions or comments.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

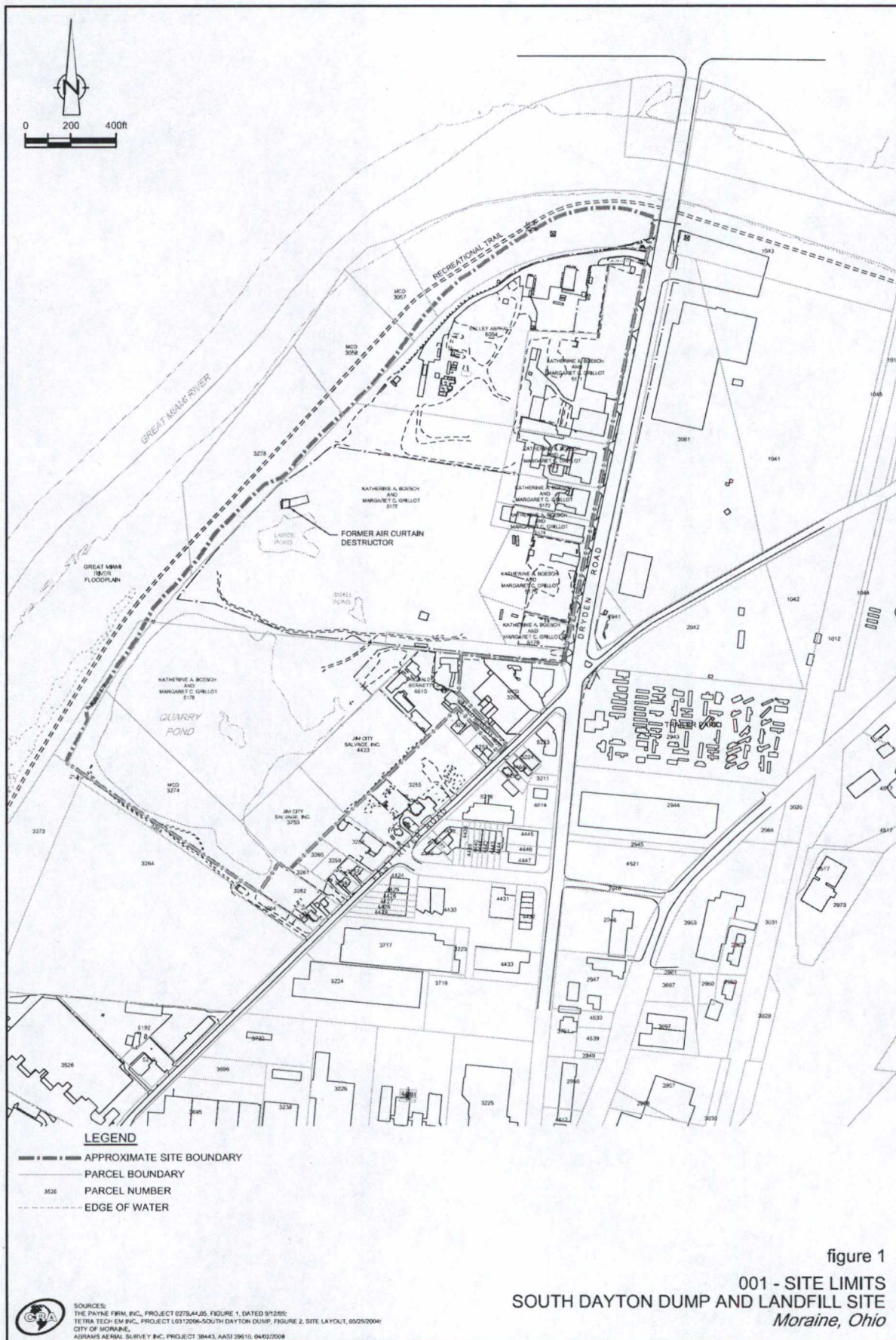
Stephen M. Quigley

AL/ca/77

Encl.

cc: Tim Prendiville, USEPA (PDF)  
Matt Justice, Ohio EPA (PDF)  
Robert Frank, CH2M Hill (PDF)  
Ken Brown, ITW (PDF)  
John Hartje, NCR (PDF)  
Scott Blackhurst, Kelsey Hayes Company (PDF)  
Jim Campbell, EMI (PDF)  
Paul Jack, Castle Bay (PDF)

Karen Mignone, Verrill Dana (PDF)  
Robin Lunn, Winston & Strawn (PDF)  
Wray Blattner, Thompson Hine (PDF)  
Tim Hoffman, Dinsmore & Shohl (PDF)  
Chris Athmer, Terran (PDF)  
Kelly Smith, Terran (PDF)  
Adam Loney, CRA (PDF)





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

SENT VIA EMAIL

REPLY TO THE ATTENTION OF:

July 7, 2010

Mr. Steve Quigley, P.E.  
Principal-in-Charge/Project Manager  
Conestoga-Rovers & Associates Ltd. (CRA)  
651 Colby Drive  
Waterloo, Ontario N2V 1C2

RE: EPA Comments on Streamlined Feasibility Study Report, Operable Unit 1  
South Dayton Dump and Landfill Site, Moraine, Ohio

Dear Mr. Quigley:

The United States Environmental Protection Agency (EPA) has completed its review of Conestoga Rovers and Associates' (CRA's) Streamlined Feasibility Study Report for Operable Unit 1 (OU1 FS) for the South Dayton Dump and Landfill Site in Moraine, Ohio. The OU1 FS contains several deficiencies, and cannot be approved by EPA. Many of the deficiencies concern comments and/or direction EPA provided to CRA several times, including: January 9, 2008; February 16, 2010; March 5, 2010; April 14, 2010; in 2008 comments and email on CRA's Letter Work Plans; and during several meetings.

In general, some of EPA's major concerns with CRA's OU1 FS include, but are not limited, to:

1. CRA used data from limited, streamlined, presumptive remedy investigations in a quantitative risk assessment. In doing this, CRA averaged chemical concentrations from several different exposure areas over the entire Site. This is not appropriate, because, for example, workers at Valley Asphalt are only exposed to the contaminants at Valley Asphalt; so lesser contaminant concentrations, near the Quarry Pond, for example, are irrelevant. Similarly, workers at the Dryden Road businesses are only exposed to high levels of soil gas at their location; so lesser chemical concentrations in soil gas near the Quarry Pond and in other Site areas is not relevant.



2. CRA only evaluated one alternative that will comply with ARARs – a Site-wide OEPA-compliant solid waste cap – and seven other alternatives that will not comply with ARARs or justify a waiver. CRA's conclusion was that an ARARs-compliant cap involves disproportionately high costs for high performance. Also, CRA did not evaluate a waivers-justifiable asphalt cap (e.g., MatCon asphalt barrier layer or asphalt with FML and drainage layer), for all businesses areas, in conjunction with an ARARs-compliant cap for the rest of the Site.
3. CRA's OU1 FS only proposes to address shallow groundwater in a few areas of Site – but not at the Site boundary. For example, CRA's FS does not address TCE contamination in MW-210 (180 to 260 ug/L) and VAS-21 (15 ug/L) at the Site boundary; or along Dryden Road where TCE was found in soil gas (1,200 ug/L) and in shallow groundwater at VAS-15 (18 ug/L); or west of MW-210 where vinyl chloride was detected in MW-203 (1.6 to 3.2 ug/L), along with low levels of TCE.
4. TCE contamination was also detected in off-Site shallow groundwater above MCLs in VAS-24 and MW-213-VAS, 200 to 300 feet from MW-210; and at concentrations below MCLs in off-Site VAS-25. TCE was also detected at high levels in soil gas in GP09-09 at the Site boundary (2,000 ug/L), 150 feet from a residence with a basement; 550 feet southwest of MW-210 and 350 feet south of MW-203.

Given the general southward flow direction in the vicinity of MW-210, these locations indicate TCE is migrating off-Site in groundwater, and indicate that a containment remedy in this area of the Site (physical, biological or chemical) is appropriate.

5. The OU1 FS does not evaluate separate groundwater alternatives individually. Instead, "... all alternatives include the following components – shallow groundwater air sparging, chemical oxidation, bioremediation or MNA". Without a separate analysis of the different remedial options for groundwater, it will be impossible for EPA to propose a shallow groundwater remedy for the Site.
6. CRA did not evaluate and active landfill gas (LFG) and soil vapor systems for the Site (e.g., placing a layer of gravel below the low-permeability cap, and using vacuum extraction to collect the LFG and soil vapors). This is especially critical, since there are active businesses on top of the landfill, who are currently at risk from being exposed to LFG and soil vapors, and who will be at an even higher risk once the landfill is capped. Also, EPA and OEPA have both been contacted by the City of Moraine, who has expressed a very strong interest in keeping the land available for industrial use, so it is critical that the remedial action thoroughly protects actual potential receptors.

These, and EPA's other comments on the OU1 FS must be thoroughly and appropriately addressed in a revised OU1 FS Report, and resubmitted to EPA and the Ohio Environmental Protection Agency (OEPA) for final review and approval. The revised OU1 FS Report must be consistent with all of EPA's comments, and with any additional comments provided to CRA by OEPA concerning ARARs. Also, please be aware that due to the substantial revisions that are required for the OU1 FS, additional comments may be generated.

As the OU1 FS requires major revisions, EPA will allow CRA until September 3, 2010 - thirty days from the date of our FS meeting, to submit the final OU1 FS Report to EPA. However, please be advised that if EPA's subsequent review of the FS Report indicates that many of EPA's comments have not been appropriately or adequately addressed in the final FS (including revisions CRA "thought" EPA agreed to during any meetings, but did not), EPA will consider its enforcement options for completing the FS consistent with Section X for the 2006 Administrative Settlement Agreement and Order on Consent, Docket No. V-W-06-C-582.

Finally, EPA would like to remind CRA that providing EPA with deliverables that clearly address EPA comments, that are defensible, and that are consistent with EPA guidance and actual Site conditions, will significantly reduce the amount of time EPA and OEPA spend reviewing and commenting on these documents; which can become costly on future oversight bills.

EPA looks forward to meeting with CRA again at our August 4, 2010 meeting. Also, if CRA could provide EPA, CH2M, and OEPA with any specific comments or issues you would like to discuss at the meeting, including any additional supporting information, prior to the meeting, that would be helpful.

Sincerely,



Karen Cibulskis  
Remedial Project Manager

cc: Ken Brown, ITW  
Mark Allen, OEPA  
Matt Justice, OEPA  
Tim Prendiville, SR-6J  
Tom Nash, C-14J  
Luanne Vanderpool, SRT-5J  
Brett Fishwild, CH2M





**CONESTOGA-ROVERS  
& ASSOCIATES**

651 Colby Drive, Waterloo, Ontario, Canada N2V 1C2  
Telephone: (519) 884-0510 Facsimile: (519) 884-0525  
www.CRAworld.com

August 4, 2010

Reference No. 038443

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency  
Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Operable Unit 1 (OU1) Streamlined Feasibility Study (FS)  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

This letter summarizes the Respondents'<sup>1</sup> grave concerns regarding, and provides an initial response to, the United States Environmental Protection Agency's (USEPA's) July 7, 2010 response to and comments on the FS for the Site. Given the nature and significance of the Respondents' concerns, I have been instructed to provide these preliminary comments in the hope that the parties can agree on a reasonable path forward, and avoid unnecessary complications and delays in completing the FS and selecting an appropriate Site remedy. Specifically, Conestoga-Rovers & Associates (CRA) submits this letter on behalf of Hobart Corporation, Kelsey-Hayes Company, and NCR Corporation. CRA will separately submit detailed responses to USEPA's FS comments in a subsequent letter.

The Respondents identify the following principal concerns:

1. Through its comments on the FS, USEPA is attempting to dictate a FS that fundamentally and significantly deviates from the scope and goals USEPA and the Respondents negotiated in good faith and agreed to in the ASAO and accompanying Statement of Work (SOW):
  - a. The ASAO states that a Presumptive Remedy approach be used "to address the potential risk from direct contact with the landfill contents in the central portion of the Site." (SOW, page 1, see also SOW Figure 3).

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<sup>1</sup> The Respondents to the Administrative Settlement Agreement and Order on Consent (ASAO) for Remedial Investigation/Feasibility Study (RI/FS) of the Site, Docket No. V-W-06-C-852.



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- b. The ASAOC states that "a conventional (i.e., not streamlined) RI/FS, risk assessment and ecological assessment consistent with the requirements of this SOW [shall be conducted] for all Site areas and/or media not addressed by the Presumptive Remedy approach above . . ." (SOW, page 2).
  - c. The Respondents have proceeded with the RI in good faith and still agree with the ASAOC approach and are prepared to complete the streamlined RI/FS and conventional RI/FS in accordance with the terms of the ASAOC, USEPA is deviating substantially from the agreed approach defined in the ASAOC and applying the Presumptive Remedy to the entire Site.
2. Although the "Site" has been defined as encompassing 80 acres, the clear language of the ASAOC recognizes that the portion of the Site utilized for municipal solid waste (MSW) landfilling (and only in the broadest sense of MSW; as this is not a MSW landfill as contemplated by the relevant guidance<sup>2</sup>) is much less than 80 acres. As described in the Hazard Ranking System (HRS) documentation record and as generally confirmed by the RI, the direct contact Presumptive Remedy area - the area where putative MSW is located - is less than one-half the Site, approximately 33 acres, rather than the entire 80 acres.
3. In its comments on the FS, USEPA selectively uses data from the RI, often in isolation from other relevant data sources, in concert with unsubstantiated assumptions from handwritten notes on an undated tax map<sup>3</sup>, to aggressively assert that the entire 80-acre Site is subject to a Presumptive Remedy approach. USEPA also applies the Presumptive Remedy Guidance as if it were regulation rather than guidance. Guidance is meant to be applied consistent with the facts and circumstances at a particular site. USEPA is demanding a remedy scope that is unsupported by the data, not required by the ASAOC, and is inconsistent with the National Contingency Plan (NCP).
- a. USEPA equates the presence of detectable concentrations of target analytes in any area of the Site with MSW landfilling and then seeks to extend application of its Presumptive Remedy Guidance<sup>4</sup> to that area. This simplistic position ignores the impacts from over 50 years of discrete industrial activity including but not

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<sup>2</sup> The Site appears to have accepted mainly non-putrescible waste and to have burnt municipal solid waste accepted prior to 1969. Putrescible municipal solid waste was not encountered in any of the test pits or boreholes completed at the Site.

<sup>3</sup> There is no evidence regarding the circumstances around the creation of this document, nor is there any corroboration that in fact landfilling took place in this entire area. The map is not an engineered drawing and there is no indication of what material was placed in what parts of the property - the map merely indicates that fill is required.

<sup>4</sup> *Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites* (EPA/540/P-91/001, February 1991) and *Presumptive Remedy for CERCLA Municipal Landfill Sites* (EPA/540/F-93/035, September 1993).



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- limited to asphalt production, auto salvaging, oil recycling, drum reconditioning, and underground storage tank operation, none of which constitute MSW landfilling but all of which are potential sources of soil contamination.
- b. USEPA and Ohio EPA ignore both historic documents<sup>5</sup> and RI data that identify only a subportion of the Site as the primary landfill area. This information establishes that, to the extent the landfill accepted MSW, it was confined to one area and was primarily burned. The majority of the waste landfilled was non-putrescible material.
  - c. USEPA's and Ohio EPA's positions on Applicable or Relevant and Appropriate Requirements (ARARs) related to the cap design requirements, Presumptive Remedies, and containment are improperly based on the erroneous premise that the entire Site was a MSW landfill. The ASAOC recognized that only a portion of the Site would be evaluated under a Presumptive Remedy approach. Data gathered in the RI confirmed this fundamental basis of the ASAOC: USEPA's comments dismiss it and assert that the Presumptive Remedy applies to the entire 80-acre Site. There are portions of the Site and impacts to those portions of the Site that never were and should never be subject to the Presumptive Remedy approach.
4. USEPA has refused to even review the Respondents' Risk Assessment (RA), which was required under the ASAOC and completed based on Site data. USEPA has ignored the RA, selected individual data points, and compared those data points to highly conservative risk screening values, which are clearly not a proper basis for determining the scope of remediation, in an effort to justify its overly broad application of the Presumptive Remedy approach. The ASAOC clearly states that an RA is to be prepared for non-Presumptive Remedy areas of the Site. USEPA cannot ignore or reject the RA by asserting that the entire 80-acre Site is subject to the Presumptive Remedy approach when this conclusion is not supported by the data or historical Site documents. Moreover, the Respondents negotiated and entered into the ASAOC in good faith, expecting that the data developed would provide a basis for evaluating Site risks and developing a supportable, protective, and cost effective remedy for the Site as required under CERCLA and the NCP.<sup>6</sup>

USEPA is Unilaterally Changing the ASAOC Approach

Despite intensive and lengthy negotiations regarding the RI/FS SOW, it is apparent to the Respondents that USEPA is attempting through its comments and actions to reject the SOW and

<sup>5</sup> Site licenses, correspondence between Site operator and regulatory agencies, etc.

<sup>6</sup> See 40CFR300.430(e)(2)(G)(9)(iii)(C - Long-term effectiveness and permanence), (D - Reduction of toxicity, mobility, or volume through treatment), and (G - Cost).



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unilaterally impose a costly and unnecessary Presumptive Remedy approach to the entire 80-acre Site.

In its January 9, 2008 letter to CRA, USEPA issued more than 300 comments on the draft RI/FS Work Plan and proposed significant modifications to the approach to investigation and remediation previously agreed upon in the ASAOC. USEPA prepared a Streamlined Risk Assessment (SRA) for the entire Site and proposed a Presumptive Remedy approach for what USEPA termed the landfill source area of the Site, including the evaluation of containment options for landfill contents across the entire 80-acre Site, groundwater, leachate (if necessary), soil vapor, and landfill gas. The SRA was fundamentally flawed, and the Respondents prepared comments addressing the deficiencies in the SRA. However, the Respondents did not issue the comments at that time because the RI/FS was moving forward and further, would include the required, more reliable, risk analyses required under the ASAOC. In light of USEPA's comments rejecting the RA performed by the Respondents and USEPA's continued reliance on the SRA, the Respondents' comments on the 2008 USEPA SRA are presented in Attachment A.

USEPA proposed that the Respondents complete a "Streamlined FS" for OU1, the putative MSW source area at the Site, and that the Respondents complete a "conventional" RI/FS for Operable Unit 2 (OU2), which encompasses off-Site areas not addressed by the Presumptive Remedy approach.

Despite the Respondents' objections to and concerns with USEPA's proposal, the Respondents proposed and USEPA agreed in 2008 that the scope of the RI work to be completed would be documented in five Letter Work Plans, which USEPA approved. The Respondents also submitted a Quality Assurance Project Plan (QAPP), a Field Sampling Plan (FSP), and a Health and Safety Plan (HASP), all of which USEPA approved.<sup>7</sup> The work described in the Letter Work Plans has been completed and forms the basis of the RI/FS submitted to USEPA in April and May 2010.

If the USEPA management present at the 2008 meetings was of the opinion that performing this work under the Letter Work Plans would not provide a basis for evaluating risk and developing an appropriate remedy, then its action in allowing the Respondents to complete the work was in bad faith.<sup>8</sup> The Respondents have spent over \$3 million in completing the work approved by

<sup>7</sup> USEPA approved the FSP in pieces as the scope of work in the Letter Work Plans became final.

<sup>8</sup> CRA wrote to USEPA on the Respondents' behalf on April 17, 2008. That letter stated that the Respondents were prepared to proceed with the work outlined in the Letter Work Plans in order to determine which portions of the Site are appropriate for a "streamlined FS" and which portions of the Site the Respondents believe should follow a more traditional RI/FS process. The Respondents asked USEPA to confirm in writing that the work completed under the Letter Work Plans was responsive to



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USEPA. To have the work simply rejected in favor of an 80-acre Presumptive Remedy approach is inconsistent with the terms of the ASAOC, and with CERCLA and the NCP.

In the FS, CRA used the RI data (developed at significant cost and effort) along with verifiable or corroborated historical information, to delineate the portion of the Site where limited MSW disposal occurred. Based on its comments on the RI/FS, USEPA now takes the unreasonable position that virtually no amount of soil type and quality data will satisfy the objective of characterizing the landfill contents at the Site. USEPA is using the term "landfill materials" to describe virtually anything that is not native soil, the implication being that any non-native materials or contaminants must be part of a MSW landfill and, therefore, subject to the Presumptive Remedy approach. For the reasons stated above, this position is unreasonable, unsupported, and is inconsistent with the terms the parties negotiated and memorialized in the ASAOC.

Consistent with the ASAOC, the Respondents have proposed in the RI/FS to address direct contact risks for the MSW landfill portion of the Site using the Presumptive Remedy approach - a landfill cap. But the Presumptive Remedy approach is not appropriate for the remaining issues at the Site and the Respondents did not agree to that approach in the ASAOC or the Letter Work Plans. Moreover, the data do not support such an approach. Hence, the Respondents assessed risk and developed response action alternatives to address risks from exposure to media in the non-Presumptive Remedy areas at the Site consistent with the ASAOC and the Letter Work Plans. The FS proposes to address defined groundwater contamination in OU1 and, if groundwater contaminants are migrating horizontally into OU2, to address the contaminant migration through *in-situ* remediation. As dictated in the ASAOC, the FS assessed alternatives for the non-Presumptive Remedy areas of the Site that were based on a conventional analysis. USEPA's FS comments require that Site groundwater be contained at the Site perimeter as part of OU1 regardless of risk, presence of receptors, or the fact that OU2 will address Site-wide groundwater remedies. USEPA's position is unreasonable and is inconsistent with the ASAOC, CERCLA, and the NCP.

*USEPA is Inappropriately Rejecting the Risk Assessment*

The ASAOC agreed to by USEPA, requires completion of a baseline risk assessment (ASAOC, page 12), "Respondents shall prepare, for inclusion with the RI Report, a determination ... including a "Baseline Human Health Risk Assessment" and "Baseline Ecological Risk Assessment."

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USEPA's request and that USEPA would consider the product "RI/FS work" in accordance with the ASAOC and that the work, once approved, would be incorporated into the SOW. USEPA never responded to this letter.



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The ASAOC states that a streamlined risk assessment is to be completed for the pathway of direct contact with the landfill contents (SOW, page 25). The ASAOC requires an Ecological Risk Assessment for all areas of the Site (SOW, page 26). In addition, the ASAOC states plainly (SOW, page 25),

*The Respondents shall conduct a conventional human health risk assessment consistent with the requirements of this SOW for all Site areas and/or media where the Respondents have not clearly indicated that there is a basis for remedial action and that a Presumptive Remedy approach is appropriate. [Emphasis added]*

In its comments on the FS, USEPA rejected the RA, claiming that the Respondents did not prepare work plans to complete the RA, there are insufficient data to complete the reports, and the results are "meaningless". USEPA also incorrectly asserts that the data were never intended to support a risk assessment despite the fact that the USEPA-approved QAPP specifically states that the data collected during the investigations proposed in the Letter Work Plans will be used to complete a Baseline Risk Assessment (QAPP, Section K.5.9.2).<sup>9</sup>

Clearly, the ASAOC requires some form of data-based risk analysis. Rather than evaluating the RI data and the RA, USEPA continues to rely upon the overly simplistic, conservative, and incorrect analyses adopted in the SRA and simply repeats these analyses in its comments. The selection of a groundwater remedy at this Site without a concrete assessment of the presence of risks to potentially exposed receptors is not reliable and is inconsistent with the ASAOC and the NCP.<sup>10</sup>

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<sup>9</sup> "All samples evaluated for the Human Health Risk Assessment and the Ecological Risk Assessment will undergo a full data validation with the exception of samples collected for waste characterization, soil gas analysis, and vertical aquifer sampling which will undergo a reduced data validation."

<sup>10</sup> Notwithstanding USEPA's attempt to modify these screening criteria to reflect an industrial exposure setting, the RSLs are not remediation standards. The USEPA *Soil Screening Guidance - User's Guide* (Publication 9355.4-23, July 1996, pg. 1) document states,

*SSLs developed in accordance with this guidance are based on future residential land use assumptions and related exposure scenarios.*

**SSLs are not national cleanup standards.** (emphasis from USEPA) *SSLs alone do not trigger the need for response actions or define "unacceptable" levels of contaminants in soil.*

*Generally, where contaminant concentrations equal or exceed SSLs, further study or investigation, but not necessarily cleanup, is warranted.*

*SSLs are concentrations of contaminants in soil that are designed to be protective of exposures in a residential setting.*



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Path Forward

The remaining three performing Respondents have spent over two years and more than \$3 million investigating the Site and developing an OU1 FS. USEPA's insistence on evaluating the Site and the Respondents' work in a manner that is inconsistent with the ASAOC and the NCP has created a fundamental dispute which must be resolved. In that regard, the Respondents are seeking an indication that the USEPA can agree in accordance with its own statutory mandate, regulations, and guidance to the following principles to resolve this significant disagreement:

1. For areas other than the Presumptive Remedy area identified in the ASAOC, remedy evaluation and selection for various areas of the Site should include appropriate cap designs based on the RI data and the nature of the materials present in those areas, considering applicable guidance, regulations, technical merit, and ARARs, including waivers and variances consistent with previous USEPA and Ohio EPA actions with respect to landfill caps, and consistent with the ASAOC. Defining the entire 80-acre Site as a MSW landfill is not appropriate based on verified historical Site documents and the RI data.
2. Evaluation of remedies as described in 1, above using existing data, allowing for reasonable data gap investigation where necessary.
3. The scope of any groundwater remediation effort, if warranted, should be evaluated by risk to receptors (as documented in the baseline HHRA and SLERA), as outlined in the FS, and consistent with the ASAOC. The ASAOC as well as the RI data confirm that containment of all Site groundwater at the Site boundary under OU1 is neither necessary nor appropriate. The Presumptive Remedy approach to groundwater at the Site is inconsistent with the ASAOC and inapplicable based on the RI data.
4. Based on landfill gas modeling, active landfill gas management does not appear to be required<sup>11</sup>. The Respondents will evaluate passive venting in the area of the landfill that requires a RCRA Subtitle D cap, due to ARAR considerations.
5. Based on risk analyses, soil-vapor contamination does not need to be remediated as part of OU1. Comparison of soil vapor data to criteria presented in the USEPA Office of Solid Waste and Emergency Response (OSWER) *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils* (EPA530-D-02-004, November

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<sup>11</sup> USEPA has commented that the landfill gas data were never approved for use in landfill gas modelling. The Respondents note that the landfill gas data were not used in the modelling. Rather the modelling is based on conservative estimates of the amount of MSW present in the landfill, the operating period of the landfill, and conservative default values for methane generation and non-methane organic compound emissions as specified in OAC 3745-76-09.



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- 2002) identified one area of the Site that requires additional investigation. Any risk to workers in on- or off-Site buildings identified through additional OU1 investigation already proposed to USEPA or future OU2 investigation will be evaluated in the OU1 or OU2 FS, as appropriate (e.g., source area treatment, sub-slab depressurization, etc.).
6. The Respondents are prepared to proceed with the OU2 RI, which will provide information required for evaluation of a comprehensive groundwater remedy for the Site.

Since first becoming aware of this Site, the Respondents have acted in good faith in their dealings with USEPA and their efforts to investigate the environmental conditions at the Site. Although these three Respondents had, at best, only minimal connection to the Site, they entered into negotiations with USEPA to complete the RI/FS. As a result of those negotiations, the Respondents and USEPA entered into the ASAO, which memorialized the parties' agreement and set the terms for the path forward on the RI/FS. At a cost of over \$3 million, the Respondents diligently performed the RI/FS and submitted these documents to USEPA.

Now, after expenditure of significant time and resources by all parties, USEPA is essentially rejecting all work performed by the Respondents in favor of a simplistic and over-expansive application of the Presumptive Remedy approach to virtually the entire 80-acre Site. USEPA's actions represent a fundamental and unilateral rejection of the approach agreed to by the parties almost four years ago in the ASAO.

USEPA's current path is potentially leading toward selection of an un-implementable remedy for the Site. In the interests of moving remedy selection for this Site forward, it is the Respondents' objective to reach agreement with USEPA on a path forward that is consistent with the points identified above and the negotiated terms of the ASAO as well as with the NCP.

In light of these significant and fundamental differences, we request an opportunity to meet with you, Regional and Associate Regional Counsel, and Superfund Branch Section and Branch Chiefs in an attempt at informal resolution.





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Please call the undersigned to discuss this matter further.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Stephen M. Quigley

AL/ca/87

Encl.

cc: Wendy Carney, EPA  
Tom Nash, EPA  
Matt Justice, Ohio EPA  
Ken Brown, ITW  
Jim Campbell, EMI  
Chris Athmer, Terran  
Karen Mignone, Verrill Dana  
Robin Lunn, Winston & Strawn  
Tim Hoffman, Dinsmore & Shohl

Tim Prendiville, EPA  
Larry Kyte, EPA  
Scott Blackhurst, Kelsey Hayes  
John Hartje, NCR  
Paul Jack, Castle Bay  
Kelly Smith, Terran  
Wray Blattner, Thompson Hine  
Kirk Marty, Shook, Hardy & Bacon

ATTACHMENT A

RESPONDENTS' COMMENTS ON THE 2008 USEPA SRA

January 31, 2008

- DRAFT FOR REVIEW -

Reference No. 038443

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency  
Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Responses to USEPA Comments on the RI/FS Work Plan  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

This letter presents the South Dayton Dump and Landfill Potentially Responsible Party Group's (PRP Group's), comments on the United States Environmental Protection Agency's (USEPA's) Streamlined Risk Assessment (SRA) for the Site. The PRP Group believes that the work contemplated in the Statement of Work (SOW) and the comments, concerns, and substantive data gaps outlined below must be addressed before any remedies are selected for the Site.

As discussed in detail below, the data on which the SRA is based cannot be validated, are old, and show distributions or trends that are inconsistent with USEPA's use of maximum concentrations in the SRA. As stated in the Guidance for Data Useability in Risk Assessment (Part A) (EPA Publication 9285.7-09A, April 1992), "[h]istorical analytical data of unknown quality may be used in developing the conceptual model or as a basis for scoping, but not in determining representative exposure concentrations."

Furthermore, the SRA uses risk calculation methodologies that are inconsistent with Ohio Environmental Protection Agency (Ohio EPA) applicable or relevant and appropriate requirements (ARARs) and USEPA's own practice. The PRP Group cannot agree that USEPA's conclusions regarding the risks posed by the Site and the likely scope of a presumptive remedy are supported by valid data, a representative conceptual model, or defensible assessment methods.

The PRP Group's comments are presented below.

Streamlined Risk Assessment (SRA)

The PRP Group received the SRA on January 8, 2008 as an attachment to USEPA's Remedial Investigation/Feasibility Study (RI/FS) comment letter.

USEPA has developed a presumptive remedy policy for municipal landfills, and that presumptive remedy is containment. Components of the containment presumptive remedy are limited to those specified in the USEPA's Presumptive Remedy for CERCLA Municipal Landfill Sites (Directive No. 9355.0-49FS; EPA 540-F-93-035; September 1993). This policy indicates that the specified components are selected on a site-specific basis. USEPA has implemented presumptive remedies at various landfills in Region 5 based on a phased approach following the collection of additional data focused on remedy design.

The use of a phased approach is very important for the Site because existing information is insufficient for remedial design because it is dated, unlikely to reflect current conditions, does not comply with USEPA's data usability guidelines, and is limited in extent. The SRA does not provide an adequate basis to determine which components of the presumptive remedy are needed at the Site or where they are needed. The PRP group takes exception to the conclusions of the SRA that are based on: (a) data that do not meet the Agency's data usability guidelines or reflect current Site conditions; and (b) screening criteria that are not consistent with or applicable to commercial/industrial properties like the Site. Additional data collection and evaluation are needed to make a determination as to which aspects of the presumptive remedy are needed at the Site.

The SRA relies on a comparison of existing Site-related data to USEPA Maximum Contaminant Levels (MCLs) for groundwater and Region 9 Preliminary Remediation Goals (PRGs). The USEPA argues that, since there are exceedances of these criteria, the presumptive remedy is triggered. While the Region 9 PRGs are dated (values are from 2004), they are often used for screening purposes, and these values do not differ markedly from more recent USEPA Region 6 Human Health Screening Values. PRGs are tools for evaluating and screening soil and groundwater quality data. USEPA's position on Region 9 PRG's is as follows:

*They are used for site "screening" and as initial cleanup goals if applicable. PRGs are not de facto cleanup standards and should not be applied as such (see next question). The PRG's role in site "screening" is to help identify areas, contaminants, and conditions that do not require further federal attention at a particular site. (USEPA web site [www.usepa.gov](http://www.usepa.gov) Facts Sheet on Region 9 PRG's).*

As stated by USEPA above, PRGs are used to help identify areas, contaminants, and conditions that do not require further investigation or remediation at a site and not to determine the need or basis for a remedy for a site.

The USEPA Presumptive Remedy for CERCLA Municipal Landfill Sites directive does not specify whether to use maximum historical concentrations or data from more recent sampling events, which are expected to be more reflective of current conditions. However, it appears from the SRA that both historical and current groundwater concentrations of certain constituents in samples from certain monitoring wells are greater than MCLs. Contaminants present at concentrations greater than the MCLs include trichloroethene (TCE), vinyl chloride, arsenic, and lead. Moreover, the SRA indicates that potential cancer risk levels for these constituents exceed the USEPA acceptable risk range of  $10^{-4}$  to  $10^{-6}$ .

Soil concentrations for certain inorganic compounds (arsenic, lead, and copper) are also greater than USEPA Region 9 commercial/industrial PRGs or comparable Ohio EPA values. The data are insufficient to determine if the impacts are confined to a specific area or not but CRA expects that ultimately the data will show that there are localized areas of contamination that should be contained. The USEPA Presumptive Remedy for CERCLA Municipal Landfills directive does not provide a detailed discussion regarding delineating or defining localized soil impacts. Typically, for risk assessment purposes, the 95th upper confidence limit on the arithmetic mean concentration is used in baseline risk estimates rather than isolated maximum concentrations as was done by USEPA in the SRA. As noted in the USEPA Risk Assessment Guidance for Superfund (EPA/540/1-89/002, December 1989), "in most situations, assuming long-term contact with the maximum concentration is not reasonable."

For the leaching to groundwater pathway, the SRA relied solely on screening criteria without evaluating groundwater concentrations over time. If groundwater concentrations are stable or declining, soil concentrations may not be an ongoing source of groundwater impacts and therefore leaching may not be an important issue. CRA has evaluated the available groundwater quality data and has concluded that the data would not meet the minimum data quality objectives set out in the RI/FS Quality Assurance Project Plan (QAPP). The SRA must be based on data, which meets or exceeds the minimum data quality objectives.

As is discussed further in Attachment A, the full and proper assessment of risks posed by the Site should be based on representative data and current risk analysis methods.

The reason USEPA agreed to a definitive scope in the SOW and CRA proposed the same scope of additional data collection in the RI/FS Work Plan is to develop a dataset that meets USEPA

data quality guidance, and that could reliably be used for risk assessment and remedial design. The existing data are generally unreliable for either purpose.

While the PRP Group recognizes the USEPA's presumptive remedy policy, the PRP Group takes exception to the conclusions of the SRA that are based on the use of screening criteria that are not consistent with or applicable to commercial/industrial sites like the Site. The PRP Group questions the use of USEPA Region 9 PRGs in completing the SRA for the Site. It is the PRP Group's position that PRGs should only be used for data evaluation and not for establishing remediation goals and objectives for the Site. This approach is consistent with the USEPA published Facts Sheet on USEPA Region 9 PRGs and recent Records of Decision for other similar sites in USEPA Region 5.

Specific additional comments on the SRA are presented in Attachment A.

Analytical data are available for soil, sediment, groundwater and surface water sampling activities that have been conducted at the Site between 1990 and 2005. The PRP Group has reviewed its files to determine the availability of analytical data reports, quality control, quality assurance (QA/QC) data and related data validations. The PRP Group has identified the following:

1. Analytical data reports, QA/QC data and data validations are not available for review for the soil sampling program completed by the USEPA in 1990.
2. The Ohio EPA - 1996 - Site Team Evaluation Prioritization Report (STEP) included full laboratory data reports complete with field QA data. A notation in the STEP report indicates that the data were reviewed by USEPA and met Field Investigation Team (FIT) program data requirements.
3. Analytical data reports for samples collected by the Payne Firm from 1998 through 2000 have been provided but no validation information exists for these reports. There does not appear to be sufficient field QA/QC data to meet the required data quality objectives established for the Site.

A summary of the available analytical data, availability of data reports, field quality control data and data validations are presented in Table 1.

Based on a review of the available analytical data, the PRP Group concludes that most if not all of the data would not meet the required data quality objectives as established by USEPA Quality Assurance Project Planning guidance documents (2000 and/or 2006) or the QAPP that is attached to the RI/FS Work Plan.

Conceptual Site Model

1. The USEPA has issued comments on both the Preliminary Remedial Action Objectives Technical Memorandum (CRA, September 2006) and the RI/FS work plan. As part of both these reviews completed by the USEPA, existing data gaps were identified. The USEPA has stated as part of its comments that the PRP must establish the "nature and extent of the contamination and fully characterize Site geology, hydrogeology, etc." in accordance with the RI/FS SOW. The PRP Group is not aware of any data gaps, which have been filled since these reviews that would allow for the development of a conceptual site model as stated in the RI/FS SOW. The PRP Group has proposed to complete additional work as part of the RI/FS work plan that would address these data gaps and allow for the development of a conceptual site model.
2. The available soil and soil gas analytical database is comprised of soil and soil gas samples which were collected between 1990 and 1996. Over half the available groundwater data date back to between 1996 and 1998. The PRP group believes that these data are not representative of current Site conditions and should not be used to develop a conceptual site model. The PRP Group has proposed to complete additional work as part of the RI/FS work plan that would provide data representative of current Site conditions and allow for the development of a conceptual site model.
3. The USEPA has stated that the available hydrogeological information for the Site as limited in terms of the groundwater and surface water monitoring events that have been completed to date (USEPA RI/FS comments 62, 63, and 64). In addition, USEPA has stated that it is unknown if the Great Miami River acts as both a source of recharge to and discharge point for Site groundwater. USEPA has also stated that the groundwater contours and flow directions presented in the RI/FS work plan for March and September 1999 do not account for seasonal variations and are not necessarily representative of groundwater conditions at the Site. The PRP Group is not aware of any additional hydrogeologic data that would address these comments and data gaps. The PRP Group cannot understand how USEPA has reached its conclusions regarding the Site without developing a conceptual site model and addressing these issues, which

January 31, 2008

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Reference No. 038443

USEPA itself has repeatedly identified as substantive concerns that need to be addressed. The PRP Group has proposed to complete additional work as part of the RI/FS work plan that would address this data gap and allow for the development of a conceptual site model as per the RI/FS SOW.

The SRA is based on data, which USEPA has characterized as limited: The data cannot be validated, are old, and show distributions or trends that are inconsistent with USEPA's use of maximum concentrations in the SRA. Furthermore, the SRA uses risk calculation methodologies that are inconsistent with Ohio EPA ARARs and USEPA's own practice. The PRP Group cannot agree that USEPA's conclusions regarding the risks posed by the Site and the likely scope of a presumptive remedy are supported by valid data, a representative conceptual model, or defensible assessment methods. No presumptive remedy should be selected until these data gaps are filled and current Site conditions are better understood.

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Stephen M. Quigley

LA/ca/21  
Encl.

c.c. Eric Kroger, CH2M Hill (PDF)  
Matt Justice, Ohio EPA (PDF)  
Ken Brown, ITW (PDF)  
Karen Mignone, Pepe & Hazard (PDF)  
Wray Blattner, Thompson Hine (PDF)  
Robin Lunn, Mayer Brown Rowe and Maw (PDF)  
Jim Campbell, Engineering Management Inc. (PDF)  
Scott Blackhurst, Kelsey Hayes Company (PDF)  
Tim Hoffman, Representing Kathryn Boesch and Margaret Grillot (PDF)



TABLE 1.1  
SUMMARY OF HISTORICAL SOIL ANALYTICAL DATA  
SOUTH DAYTON DUMP AND LANDFILL SITE  
MORaine, OHIO

<i>Sampling Company/Agency</i>	<i>Sample Collection Date</i>	<i>Sample Matrix</i>	<i>Number of Samples</i>	<i>Number of Field Duplicates/Blanks</i>	<i>Lab Report Available</i>	<i>Data Validation Available</i>
EPA	23/10/1990	Soil	11	0	No	No
Ohio EPA	09/07/1996	Soil	12	1	Yes	Yes
Ohio EPA	09/07/1996	Sediment	6	1	Yes	Yes
Payne	16/04/1999	Sediment	3	0	Yes	No
Payne	12/05/2000	Sediment	3	0	Yes	No
PSARA	19/02/1996	Soil Gas	64	0	No	No
Ohio EPA	09/07/1996	Groundwater	5	1	Yes	Yes
Payne	06/01/1998	Groundwater	3	0	Yes	No
Payne	28/05/1998	Groundwater	5	0	Yes	No
Payne	16/02/1999	Groundwater	1	0	Yes	No
Payne	17/02/1999	Groundwater	3	0	Yes	No
Payne	19/02/1999	Groundwater	1	0	Yes	No
Payne	11/11/1999	Groundwater	5	0	Yes	No
Payne	10/05/2000	Groundwater	4	0	Yes	No
Payne	06/06/2001	Groundwater	4	0	Yes	No
Payne	14/06/2002	Groundwater	4	0	Yes	No
Payne	01/07/2004	Groundwater	4	0	Yes	No
Payne	14/10/2004	Groundwater	2	0	Yes	No
Payne	15/10/2004	Groundwater	2	0	Yes	No
Payne	02/08/2005	Groundwater	3	0	Yes	No
Payne	04/08/2005	Groundwater	1	0	Yes	No

ATTACHMENT A

SPECIFIC COMMENTS ON USEPA's  
STREAMLINED RISK ASSESSMENT

## ATTACHMENT A

### SPECIFIC COMMENTS ON USEPA's STREAMLINED RISK ASSESSMENT

CRA's Specific Comments on the Streamlined Risk Assessment (SRA)  
South Dayton Dump and Landfill Site (Site)

While the United States Environmental Protection Agency Region 5 (USEPA) may use the SRA in an attempt to justify its decision to trigger a presumptive remedy process, the conclusions of the SRA are not valid and do not justify the requirement of the various components of the containment option for the following reasons:

- Data set: Historical data do not meet the USEPA data usability guidelines, most of the existing information is dated and there is not a complete data set to assess current and potential future conditions.
- PRGs: Screening criteria such as USEPA's Soil Screening Guidance (USEPA, July 1996) or USEPA Region 9 Preliminary Remediation Guidelines (PRGs) are conservative criteria typically used to determine areas of a site or constituents that require no further evaluation. However, in the SRA, USEPA used these criteria to justify a remedial option.
- Trichloroethene (TCE): The USEPA Region 9 PRG for TCE is inappropriate for the following reasons:
  - a) In its draft 2001 TCE risk assessment, USEPA developed a range of slope factors that spans some 20 fold (the smallest slope factor is approximately 1/20<sup>th</sup> the greatest) and stated that "[d]epending on the characteristics of the exposed population and the exposure scenario, each risk assessment should select an appropriate slope factor from this range." However, in the SRA, USEPA chose to use the most conservative slope factors through its default selection of USEPA Region 9 PRGs, which were designed for screening purposes and not for triggering remedial decisions. USEPA's draft TCE risk assessment indicated that the more conservative slope factors are for sensitive populations, which would not be consistent with a commercial/industrial setting such as the Site.
  - b) For the Lake Calumet Cluster Site in Region 5 (Record of Decision (ROD) Table 2-7), USEPA recommended the use of USEPA's TCE slope factor and unit risk factor values that were in effect prior to the draft 2001 TCE risk assessment. The ROD is dated September 2006, well after the Agency's draft TCE risk assessment was published. The values USEPA Region 5 recommended for the Lake Calumet Cluster Site are between 36 and 66 times less potent than values used by USEPA for the Site.
  - c) Moreover, the Ohio Environmental Protection Agency (Ohio EPA) does not use the draft TCE toxicity values to derive its Generic Cleanup Numbers. Rather Ohio EPA uses the California EPA values. Using the Ohio EPA values, average

TCE concentrations yielded excess lifetime cancer risk estimates that were below  $10^{-4}$  for the data for groundwater samples from all monitoring wells. It is important to note that the Site is located in the state of Ohio and that Ohio EPA's Generic Cleanup Numbers would arguably be the pertinent "relevant and appropriate requirements" rather than USEPA Region 9 PRGs.

- d) In the SRA, USEPA relied on residential USEPA Region 9 PRGs for groundwater. On-Site exposures are commercial/industrial and therefore, use of residential criteria is overly conservative.
  - e) Besides Ohio EPA, Indiana DEM, a state also in USEPA Region 5, does not rely on the draft 2001 USEPA TCE risk assessment. Indiana DEM developed oral and inhalation slope factors for TCE. Consistent with USEPA recommendations, cancer slope factors took into account the exposed population. The Indiana DEM oral slope factors for TCE are  $0.10 \text{ (mg/kg/d)}^{-1}$  (residential) and  $0.034 \text{ (mg/kg/d)}^{-1}$  (industrial). These values are 4 to over 10 times lower than those presented in the draft 2001 USEPA TCE assessment and used in USEPA Region 9 PRGs. Inhalation slope factors were  $0.054 \text{ (mg/kg/d)}^{-1}$  (residential) and  $0.018 \text{ (mg/kg/d)}^{-1}$  (industrial). These are some 10 to 20 times lower than those derived from the draft 2001 USEPA TCE assessment and used in USEPA Region 9 PRGs.
- Vinyl Chloride: The USEPA Region 9 PRG for vinyl chloride is inappropriate for use in evaluating potential exposures at the Site. In its Integrated Risk Information System (IRIS) file, USEPA developed oral and inhalation slope factors that reflect either entire or partial lifetime exposures. USEPA Region 9 PRGs rely on whole life slope factors for vinyl chloride, which is inconsistent with anticipated exposures, i.e., industrial/commercial. Indeed, the designation included in USEPA Region 9 PRG tables for vinyl chloride is "Vinyl chloride (child/adult)".
  - Metals: The SRA failed to include information relative to background metals concentrations and therefore, did not accurately estimate potential risks associated with Site-related impacts. This could be quite important especially for arsenic since the USEPA Region 9 PRG is below typical background concentrations.
  - Leaching: The evaluation of the migration-to-groundwater pathway included in the SRA is inappropriate for the following reasons:
    - a) The SRA relied on migration-to-groundwater screening criteria in its assessment of the potential for soil concentrations to impact groundwater. The SRA did not discuss groundwater trends, which have generally been decreasing. Therefore, the existing data suggest that soil concentrations are not an ongoing source of groundwater contamination, contrary to SRA conclusions.
    - b) Moreover, the SRA cites isolated exceedances of migration-to-groundwater criteria. These isolated exceedances are unlikely to constitute a source that would materially impact groundwater quality.

Finally, the SRA relied on soil concentration data that are quite old (1990) and therefore, unlikely to reflect current conditions.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590**

**SENT VIA EMAIL  
HARD COPY TO FOLLOW**

**August 9, 2010**

**Mr. Stephen M. Quigley  
Conestoga-Rovers & Associates (CRA)  
651 Colby Drive  
Waterloo, Ontario, Canada  
N2V 1C2**

**RE: CRA's July 26, 2010, Email and August 4, 2010, Letter RE: Operable Unit  
1 (OU1) Streamlined Feasibility Study (FS) for the South Dayton Dump  
and Landfill (SDDL) Site, Moraine, Ohio**

**Dear Mr. Quigley:**

**The United States Environmental Protection Agency (EPA) has received CRA's  
July 26, 2010, and August 4, 2010, responses concerning EPA's July 7, 2010,  
comments on the OU1 Streamlined FS Report for the South Dayton Dump and  
Landfill Site (SDDL) in Moraine, Ohio.**

**CRA's July 26, 2010, email states that, after reviewing EPA's and the Ohio  
Environmental Protection Agency's (OEPA's) comments on the OU1 FS: *"It is  
clear to us there are fundamental disagreements about essential site elements."*  
In the email, you also said that, due to the involvement of additional parties, CRA  
would no longer be available to meet with EPA and OEPA on August 4, 2010, to  
discuss EPA's comments and the OU1 FS as planned, and suggested a meeting  
date of August 16, 2010, or later. CRA also sent EPA a follow-up letter on  
August 4, 2010, to provide some additional, general discussion of CRA's  
"fundamental disagreements" with EPA's OU1 FS Comments.**

**EPA is disappointed to find that, after working with CRA on the OU1 Streamlined  
Remedial Investigation (RI) and FS for over two and a half years, CRA considers  
there to be fundamental disagreements as to how the Site should be  
appropriately addressed at this stage of the process. EPA is willing to meet with  
you to discuss these disagreements. However, we believe work on the FS  
should proceed. It is unfortunate that CRA was not able to attend the August 4,  
2010, OU1 FS meeting, since EPA and OEPA could have answered CRA's**

questions about the OU1 FS comments, provided CRA with additional clarification as to how to address the comments in the FS, and discussed any of CRA's concerns at this time.

EPA recognizes that CRA does not agree with the major revisions EPA directed CRA to make to the OU1 FS Report on July 7, 2010; or with the additional comments OEPA provided to CRA (that EPA supports) on July 19, 2010. However, Section X, *U.S. EPA Approval of Plans and Other Submissions*, of the 2006 Administrative Settlement Agreement and Order on Consent (ASAOC), and Task 7.2, *Feasibility Study Report*, of the Statement of Work attached to the ASAOC, obligates the ASAOC Respondents to fully and satisfactorily correct the deficiencies in the FS Report; and to submit the corrected report to EPA and OEPA within 21 days or as otherwise approved by EPA (in this case by September 3, 2010), subject only to the Respondents' right to invoke the Dispute Resolution procedures set forth in Section XV, *Dispute Resolution*, of the ASAOC.

Although CRA was not able to attend the August 4, 2010 meeting, EPA and OEPA will make every effort to answer CRA's questions about the OU1 FS comments and provide CRA with any additional direction CRA requests as to how EPA's and OEPA's comments should be addressed in the final FS Report in a timely manner. However, the Respondents are still obligated to fully and satisfactorily correct the deficiencies in the FS Report as directed by EPA in its July 7, 2010 letter to CRA; and to submit the corrected, final FS Report to EPA and OEPA by September 3, 2010.

If you have any questions about EPA's and OEPA's comments on the OU1 FS, or require additional direction as to how to address EPA's and OEPA's comments in the final FS Report, please feel free to contact me at 312-886-1843 or via email at [cibulskis.karen@epa.gov](mailto:cibulskis.karen@epa.gov). Legal questions should be directed to Tom Nash, Associate Regional Counsel, at 312-886-0552, or via email at [nash.thomas@epa.gov](mailto:nash.thomas@epa.gov).

Sincerely,



Karen Cibulskis  
Remedial Project Manager

Cc (via email): Tim Prendiville, SR-6J  
Tom Nash, C-14J  
Luanne Vanderpool, SRT-5J  
Matt Justice, OEPA  
Brett Fishwild, CH2M  
Ken Brown, ITW



**CONESTOGA-ROVERS  
& ASSOCIATES**

8615 W. Bryn Mawr Avenue, Chicago, IL 60631-3501  
Telephone: (773) 380-9933 Fax: (773) 380-6421  
www.CRAworld.com

August 31, 2010

Reference No. 038443-89

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency  
Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Summary of Proposed Alternative Approach for Completing  
the Streamlined Remedial Investigation/Feasibility Study (RI/FS)  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

Conestoga-Rovers & Associates (CRA) has prepared this letter to summarize a proposed alternative approach for completing the streamlined RI/FS for the Site. CRA has prepared this letter on behalf of the Respondents to the Administrative Settlement and Order on Consent (ASAOC) for Remedial Investigation/Feasibility Study Proceeding Under Sections 104, 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. SS 9604, 9607, and 9622 (United States Environmental Protection Agency [USEPA]) Docket No. V-W-06-C-852) effective August 15, 2006.

The Respondents believe that the FS submitted on May 14, 2010 satisfies the ASAOC, is consistent with the SOW, and sets forth a proposed remediation approach that is fully protective of human health and the environment. However, the Respondents offer this alternative in an effort to reach agreement with USEPA and Ohio EPA, avoid a lengthy dispute resolution process, and move this process forward.

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& ASSOCIATES**

August 31, 2010

2

Reference No. 038443-89

In their July 7, 2010 comments on the Streamlined Feasibility Study for OU1 (OU1 FS), USEPA requested that the number of options under consideration be reduced to two options<sup>1</sup> as follows:

- Alternative 4A: Asphalt cap around businesses, Ohio Solid Waste Cap<sup>2</sup> in central and southern portion of Site, sediment cap for Quarry Pond
- Alternative 8A: Entire Site - Ohio Solid Waste Cap (fully ARAR-compliant)

The alternatives include a landfill gas capture system and full on-Site containment or treatment of Upper Aquifer Zone groundwater.

The Respondents suggest an alternative path forward that substantially meets the intent of USEPA's proposed remedies while remaining consistent with the scope of the ASAOC Statement of Work (SOW). The SOW required that the Respondents "use a Presumptive Remedy approach consistent with U.S. EPA guidance ... to address the potential risk from direct contact with the landfill contents in the central portion of the Site." The SOW stated that the remainder of the Site, including landfill gas, groundwater, and leachate, would be addressed through a conventional RI and FS.

The remedy will focus on capping the direct contact presumptive remedy area described in the SOW and areas to the north of that area where municipal solid waste (albeit, inert, non-putrescible wastes) have been identified. The southern portion of the Site (Quarry Pond and Jim City and Barnett Parcels) would be removed from OU1 and, hence, from the Presumptive Remedy process<sup>3</sup> and be addressed as part of the conventional RI/FS for OU2.

---

<sup>1</sup> The two options put forward by USEPA are most similar to Alternatives 4 and 8 in the OU1 FS and, accordingly, have been numbered Alternatives 4A and 8A.

<sup>2</sup> Ohio Solid Waste Cap as per Ohio Administrative Code (OAC) Chapter 3745-27-08, including an 18-inch re-compacted soil barrier layer, flexible membrane liner, 12-inch drainage layer, 30-inch cap protection layer, and 6-inch vegetated topsoil layer.

<sup>3</sup> Specifically, the USEPA presumptive remedy for municipal landfill sites as detailed in Presumptive Remedy for CERCLA Municipal Landfill Sites, EPA 540-F-93-035).





**CONESTOGA-ROVERS  
& ASSOCIATES**

August 31, 2010

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Reference No. 038443-89

The Respondents propose to modify USEPA's proposed alternatives for the Site as follows:

- Alternative 4B: Asphalt Cap<sup>4</sup> around businesses, Ohio Solid Waste Cap in vacant central portion of the Site. Quarry Pond and Jim City/Barnett Parcels to be addressed as part of OU2
- Alternative 8B: Entire central and northern portion of Site - Ohio Solid Waste Cap (fully ARAR-compliant, with the exception of slope, which is to be negotiated).

Prior to submitting a revised FS containing these alternatives, the Respondents would like to reach agreement with USEPA on the following points:

- The Quarry Pond and the Jim City/Barnett Parcels will be addressed in OU2, as contemplated in the ASAOC and SOW.
- On-Site Upper Aquifer Zone groundwater areas of concern will be addressed using in situ remedies via interim remedial action (or similar), outside of the OU1 RD/RA process. Further remedial action may be required as determined during the OU2 RI/FS.
- Remaining groundwater issues (on-Site and off-Site, Upper and Lower Aquifer Zones) addressed using conventional RI/FS approach for OU2 consistent with the ASAOC SOW.
- Consistent with USEPA's suggested approach in the July 7, 2010 letter and the designs assessed in the MatCon™ Innovative Technology Evaluation Report<sup>5</sup>, the Asphalt Cap will consist of a 4-inch thick layer of MatCon™ asphalt with appropriate sub-base<sup>6</sup>.
- Agreement on a variance or waiver to decrease the slope of the cap from 5 percent to 1 percent.
- Agreement that an active landfill gas collection system will not be required based on investigation data and modeled results in the FS.
- Agreement on the data quality objectives governing the investigation of the southern parcels (i.e., Parcels 3252, 3274, 3275, 3753, 4423, 4610, and 5178) and the scope of the investigation required to assess the human health and ecological risks associated with direct contact with the soils and waste on this portion of the Site.
- Agreement on the data quality objectives governing the investigation of the Quarry Pond surface water and sediments and the scope of the investigation required to assess human health and ecological risks associated with the Quarry Pond surface water and sediments.

<sup>4</sup> The asphalt cap would consist of a 4-inch thick layer of MatCon™ Asphalt with appropriate base layer. The base layer would utilize existing granular material where available augmented with imported aggregate.

<sup>5</sup> USEPA, 2003. *Evaluation of Wilder Construction Company's MatCon™ Cover Technology*, EPA/540/R-03/505.

<sup>6</sup> Where appropriate, the existing gravel surface materials would be used with additional granular material placed as necessary to properly support the asphalt layer.



**CONESTOGA-ROVERS  
& ASSOCIATES**

August 31, 2010

4

Reference No. 038443-89

- Agreement on the data quality objectives governing the investigation of shallow groundwater beneath the Site and the scope of the investigation required to determine whether impacted shallow groundwater is migrating off-Site at concentrations that exceed MCLs, or in the absence of MCLs, an excess lifetime cancer risk of  $1 \times 10^{-4}$  or a hazard index of 1.

The layouts of the proposed alternatives are provided on Figures 1 and 2.

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Stephen M. Quigley

AL/cb/90

cc: Wendy Carney, EPA  
Tom Nash, EPA  
Matt Justice, Ohio EPA  
Ken Brown, ITW  
Jim Campbell, EMI  
Chris Athmer, Terran  
Karen Mignone, Verrill Dana  
Robin Lunn, Winston & Strawn  
Tim Hoffman, Dinsmore & Shohl

Tim Prendiville, EPA  
Larry Kyte, EPA  
Scott Blackhurst, Kelsey Hayes  
John Hartje, NCR  
Paul Jack, Castle Bay  
Kelly Smith, Terran  
Wray Blattner, Thompson Hine  
Kirk Marty, Shook, Hardy & Bacon



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

SENT VIA EMAIL

REPLY TO THE ATTENTION OF:

September 10, 2010

Mr. Steve Quigley, P.E.  
Principal-in-Charge/Project Manager  
Conestoga-Rovers & Associates Ltd. (CRA)  
651 Colby Crive  
Waterloo, Ontario, Canada N2V 1C2

RE: CRA's Summary of Proposed Alternative Approach for Completing the  
Streamlined Remedial Investigation/Feasibility Study (RI/FS) for the South  
Dayton Dump and Landfill (SDDL) Site, Moraine, Ohio

Dear Mr. Quigley:

The U.S. Environmental Protection Agency (EPA) has reviewed CRA's August 31, 2010, letter proposing an alternative approach for completing the streamlined RI/FS at the SDDL Site in Moraine, Ohio. We appreciate CRA's willingness and efforts to move the RI/FS process forward with this proposal and believe we can agree on major portions of the proposal. In particular, based on CRA's proposal, we believe the Agency can exercise additional flexibility concerning the scope of Operable Unit (OU) 1 and OU2.

At this time, we agree to your request to defer to OU2 the development and evaluation of remedial alternatives for additional areas of the Site. The purpose of this deferment is to allow CRA additional time to conduct a conventional (i.e., not streamlined) RI/FS for quantitative risk assessment purposes for these areas, consistent with the 2006 RI/FS Statement of Work. However, as discussed below, we unfortunately cannot agree to all of the conditions stated in your letter, but we believe we can find a reasonable solution.

The Site areas we agree CRA may defer from OU1 to OU2, and from the streamlined OU1 FS, are:

- Lots 4610 and 3252 (Barnett);
- Lots 4423 and 3753 (Jim City); and
- Lots 3274, 3275 and 5178 (Quarry Pond), except for the eastern part of the

northern Quarry Pond embankment that extends from Lot 5177 onto Lot 5178.

At this time, EPA requests that CRA submit the OU1 FS by Friday, September 24, 2010, and that it be revised to address EPA's July 7, 2010 comments (except as otherwise noted in this letter). During this time, EPA will continue to be available to answer any questions CRA has about EPA's OU1 FS comments; to provide CRA with additional direction as to how EPA's FS comments should be addressed in the OU1 FS Report; or to discuss any other issues that may arise.

As part of your August 31, 2010, letter proposal you included several conditions to the offer. We generally agree that the issues you raise are important and need to be addressed, and are willing to work with you to expeditiously address them. However, EPA cannot agree to several of these conditions because they amount to the pre-selection of a remedy. The purpose of the FS is to evaluate alternatives for cleanup options and not to select a final plan. Before a final plan can be selected, evaluation of the alternatives must be made against the nine criteria and then the proposed final plan submitted for public comment. Given this context, we would like to take this opportunity to respond to the specific additional issues CRA raised in its proposal. EPA's hope is that this response may foster a better understanding of these issues on the part of CRA, and alleviate some of CRA's concerns concerning the OU1 FS and OU2.

CRA Issue 1: *On-Site Upper Aquifer Zone groundwater areas of concern will be addressed using in-situ remedies via interim remedial action (or similar), outside of the OU1 RI/RA process. Further remedial action may be required as determined during the OU2 RI/FS.*

EPA Response to CRA Issue 1: EPA agrees with, and appreciates, CRA's willingness to address some areas of shallow groundwater contamination at the Site using in-situ remedies. EPA agrees these efforts may help reduce the mass of shallow groundwater contaminants; may help reduce these areas from acting as a source to deep groundwater contamination; and may obviate the need for long-term groundwater containment.

However, we think that it is reasonable to request that the OU1 FS evaluate at least two active remedial alternatives (i.e., engineered technologies), in addition to the no-action alternative, and any other alternatives CRA would like to evaluate, to prevent shallow groundwater contaminants, at a minimum, from migrating beyond the central-southeast boundary of the Site.

As discussed more fully in our July 7, 2010, OU1 FS comments, during the streamlined RI, CRA detected elevated levels of TCE and/or vinyl chloride in shallow groundwater in MW-210; north along Dryden Road to VAS-15; and west of MW-210 to approximately MW-203. TCE was also detected in off-Site shallow groundwater above Maximum Contaminant Levels (MCLs) in VAS-25 and MW-213-VAS, approximately 200 to 300 feet from MW-210 in the general southward downgradient direction of the Site. It was

also detected in soil gas at GP-09 at the Site boundary, 200 feet from a residence with a basement, 550 feet southwest of MW-210 and 350 feet south of MW-203. All this shows a wide area of groundwater that is impacted by Site contamination.

In our OU1 FS comments we were trying to communicate that there is significant flexibility in the potential remedial alternatives CRA could evaluate to contain shallow groundwater in this area of the Site (approximately 1,300 linear feet). These include a variety of chemical, physical or biological technologies. Again, EPA is only requesting that CRA evaluate these alternatives in the FS. EPA will not select a final remedy for shallow OU1 groundwater until all shallow groundwater alternatives, including the no-action alternative, are evaluated in conjunction with EPA's nine evaluation criteria, in the OU1 Record of Decision (ROD).

Also, as EPA has continuously emphasized throughout the streamlined OU1 RI/FS process, EPA is willing to consider additional data collected by CRA during the remedial design (RD), if not sooner, to support a change in EPA's Proposed Plan or ROD, or as the basis for a ROD Amendment or Explanation of Significant Difference (ESD).

*CRA Issue 2: EPA must agree that an active landfill gas (LFG) collection system will not be required based on investigation data and modeled results in the FS.*

EPA Response to Issue 2: We agree that any decision on the need for an active landfill gas collection system must be based on Site data available in the RI and/or FS. We based our request for the evaluation of at least one active LFG and soil vapor system for the Site on our understanding of the available data and Site conditions. Most importantly it was based on the fact that businesses are on top of the landfill and are currently at risk from being exposed to LFG and soil vapors, and will be at an even higher risk if the landfill is capped.

During CRA's streamlined RI, for example, TCE was detected at a maximum concentration of 56,000 ug/m3 in a shallow soil gas sample collected 50 feet from an occupied structure. Methane was also detected above the upper explosive limit of 15 percent in shallow soil gas near another on-Site structure. The methane concentration in this sample was 26 percent methane, by volume. See EPA's July 7, 2010, OU1 FS comments for a full discussion of soil gas contamination at the Site.

As explained in EPA's OU1 FS comments, we believe CRA did not collect sufficient data (e.g., systematic landfill gas sampling within 3 to 5 feet of the surface across the landfill, or subslab soil gas sampling at each on-Site structure, at multiple times of the year to evaluate any seasonal differences) to support modeling, and EPA did not approve the use of CRA's landfill gas sampling for modeling purposes (see Section 1.2.1 in the 2006 RI/FS SOW concerning modeling requirements). However, we are more than willing to work with you to develop a sampling plan that will adequately characterize the landfill gas issue.

The City of Moraine and others have expressed a very strong interest in keeping the

SDDL Site available for industrial use. As such, it is critical that any remedial action thoroughly protect potential receptors at the Site. This includes workers in buildings located on top of the landfill, as well as workers who may be exposed to vapors from VOC-contaminated shallow groundwater at the Site (e.g., the TCE concentration in groundwater in VAS-9 was 5,100 ug/L).

EPA agrees, however, that there is significant flexibility in the technologies that can be used to control LFG and soil vapors to protect current and future receptors at the Site. These may include, but are not limited to, passive venting, active venting, passive venting that can be easily converted to active venting, or a combination of technologies depending on current and potential land use (e.g., active venting in business areas; passive venting in other Site areas).

Again, the Agency cannot select a remedy for LFG and soil vapors until all potential alternatives to control LFG and soil vapor, including the no-action alternative, are evaluated in conjunction with EPA's nine evaluation criteria, in the OU1 Record of Decision (ROD). Also, as EPA has continuously emphasized throughout the streamlined OU1 RI/FS process, EPA is willing to consider additional data collected by CRA during the remedial design (RD), if not sooner, to support a change in EPA's Proposed Plan or ROD, or as the basis for a ROD Amendment or Explanation of Significant Difference (ESD) at the Site.

CRA Issue 3: *The asphalt cap evaluated in the OU1 FS will consist of a 4-inch thick layer of MatCon asphalt with appropriate sub-base. EPA must also agree on a variance or waiver to decrease the slope of the cap from 5 percent to 1 percent.*

EPA Response to Issue 3: EPA appreciates CRA's willingness to evaluate a MatCon asphalt capping alternative in the OU1 FS. However, any capping alternatives evaluated in the FS, including a 4-inch thick layer of MatCon asphalt, must meet or exceed the OEPA municipal solid waste capping ARARs over the long term. At this point CRA has not provided information showing that the solid waste capping requirements are not ARARs, or the basis of a waiver of the requirements, but we are open to evaluating this information as part of the FS process. HELP model results could be the basis for an equivalency waiver under the NCP. We believe this is likely to be the only justification available by which this waiver could be approved. EPA will not be able to evaluate the effectiveness and equivalency of a 4-inch thick layer of MatCon asphalt until this demonstration is provided.

The MatCon Innovated Technology Report also indicates there are additional requirements for MatCon cover applications. These include:

- 1 The subgrade to receive the MatCon cover must be firm and unyielding to support compaction of the MatCon asphalt during construction.
- 2 The subgrade to receive the MatCon cover must have slopes of less than 3:1 (height:volume) for the safe use of compacting and paving equipment during installation.

- 3 The subgrade to receive MatCon must have a slope of greater than 1.5 percent to facilitate drainage and minimize surface water ponding.
- 4 The subgrade must be constructed to a grading tolerance of plus or minus 0.5 inch.
- 5 Though heavy surface use on a MatCon cover is possible, heavy container stacking, extraordinarily heavy or repeated loads, sharp point source loading, misuse, or use of heavy tracked equipment might compromise its integrity. Such heavy surface uses must be accommodated through customized designs, formulations and construction methods. Site-specific operations and maintenance plans for each installation and the potential future surface uses will need to be prepared and reviewed by the MatCon company to confirm consistency with strict MatCon quality assurance procedures.

The OU1 FS must also discuss how these requirements will be addressed at the Site based on the current and expected uses of each property to be covered with a MatCon cap.

EPA agrees that a variance will be required in areas where the slope will be less than the 5 percent slope required by OEPA ARARs. The minimum slope standard of 5 percent in Ohio Administrative Code (OAC) rule 3745-27-08 is a design standard. However, due to existing Site characteristics (e.g., age and sub-grade topography), we agree that a 5 percent slope at the SDDL Site may not be practicable. EPA and OEPA agree that an appropriate slope variance can be accommodated at the Site; however, we do not have the information to determine whether a variance is appropriate at this time.

The grade of the landfill cap is directly related to potential slope stability and surface drainage considerations. The OU1 FS should explain how the various capping alternatives would be designed and constructed to accommodate the material being used, and to achieve and maintain positive drainage over the long-term. This may include the use of surface water control structures, such as ditches to control run-on and runoff, sedimentation pond(s), erosion control measures, and surface grading to achieve positive drainage and prevent water from ponding over areas where landfill materials are present. These surface water control structures, in conjunction with a stability analysis on the existing landfill materials, can then be used to form the basis for a variance to the minimum slope standard under OAC rule 3745-27-03(C) as part of the design process.

**CRA Issue 4:** *EPA must agree to data quality objectives and the scope of the investigation required to assess the human health and ecological risks associated with the OU2 investigation, including landfill materials and soil on the Barnett and Jim City Salvage parcels, surface water and sediment in the Quarry Pond, and shallow groundwater, before CRA will submit the revised OU1 FS to EPA.*

**EPA Response to CRA Issue 4:** EPA will work with CRA as expeditiously as possible on the data quality objectives and the scope of the OU2 investigation, following the



process and guidance for conducting a conventional RI/FS. This would include a quantitative human health risk assessment and baseline ecological risk assessment for these areas, and/or Site media, consistent with the 2006 RI/FS SOW. Since OU2 is separate from OU1, however, EPA does not agree that the OU1 FS process should be delayed any further, and requests that CRA proceed with the revised OU1 FS at this time.

EPA would like to caution CRA, however, that CRA is now proposing to characterize large areas of the Site that EPA proposed to evaluate as a presumptive remedy as a time and cost-saving measure. For quantitative risk assessment purposes this includes characterizing approximately 15 acres of heterogeneous landfill materials up to 35 feet thick in some areas, in the southern portion of the Site; and about 15 acres of surface water and sediment in the Quarry Pond, which is up to 35 feet deep in some areas, and the island in the Quarry Pond. A quantitative risk assessment will require CRA to address all media, all pathways, and all current and potential future receptors.

Shallow groundwater that is not being actively contained as part of an OU1 remedy, or that has not been previously fully characterized, will also need to be characterized around the perimeter of the landfill during RD, if not sooner. For the RD the work will need to determine the extent of a shallow groundwater containment system (if selected as part of the OU1 ROD), and/or to develop an appropriate monitoring network for long-term monitoring. This work would be in addition to any on-Site or off-Site work already required as part of OU2.

EPA understands that the additional work and investigation required to support a conventional RI/FS and a quantitative human health and ecological risk assessment, can become very costly. However, EPA is willing to allow CRA the additional time to conduct this work, since, through this work, CRA may be able to demonstrate that these areas of the Site and/or media do not pose a risk to human health and the environment, and would not require remedial action.

#### Conclusion:

EPA appreciates CRA's efforts in attempting to move the Site forward, and is trying to be as flexible as possible in the approach to addressing the SDDL Site. We look forward to working with CRA through the rest of the OU1 and OU2 process for the Site. As mentioned above, EPA requests that CRA submit the OU1 FS by Friday, September 24, 2010. The FS should incorporate the changes discussed in this letter as well as the Agency's July 7, 2010 comment letter.

During this time, EPA will continue to be available to answer any questions CRA has about EPA's OU1 FS comments; to provide CRA with additional direction as to how EPA's FS comments should be addressed in the OU1 FS Report; or to discuss any other issues that may arise.

If you have any questions or would like to discuss the Site further, please feel free to

contact me at 312-886-1843 or via email at [cibulskis.karen@epa.gov](mailto:cibulskis.karen@epa.gov). Legal questions should be directed to EPA attorney Tom Nash, at 312-886-0552, or via email at [nash.thomas@epa.gov](mailto:nash.thomas@epa.gov).

Sincerely,



Karen Cibulskis  
Remedial Project Manager

Cc: Tim Prendiville, SR-6J  
Tom Nash, C-14J  
Luanne Vanderpool, SRF-5J  
Mark Allen, OEPA  
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Reference No. 038443-89

Ms. Karen Cibulskis  
Remedial Project Manager  
United States Environmental Protection Agency  
Region V  
77 West Jackson Boulevard  
Mail Code SR-6J  
Chicago, IL 60604

Dear Ms. Cibulskis:

Re: Response to USEPA Comments Dated September 10, 2010  
Summary of Proposed Alternative Approach for Completing  
the Streamlined Remedial Investigation/Feasibility Study (RI/FS)  
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

Conestoga-Rovers & Associates (CRA) has prepared this letter in response to the United States Environmental Protection Agency's (USEPA's) September 10, 2010 letter regarding the Summary of Proposed Alternative Approach for Completing the RI/FS for the Site. CRA is writing this letter on behalf of the Respondents to the Administrative Settlement and Order on Consent (ASAOC) for Remedial Investigation/Feasibility Study (RI/FS) Proceeding Under Sections 104, 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. SS 9604, 9607, and 9622 (United States Environmental Protection Agency [USEPA]) Docket No. V-W-06-C-852) effective August 15, 2006.

For ease of review, the USEPA's Comments are italicized followed by the Respondents' response.

#### USEPA Preamble

*The Site areas we agree CRA may defer from OU1 to OU2, and from the streamlined OU1 FS, are:*

- *Lots 4610 and 3252 (Barnett)*
- *Lots 4423 and 3753 (Jim City); and*
- *Lots 3274, 3275 and 5178 (Quarry Pond), except for the eastern part of the northern Quarry Pond embankment that extends from Lot 5177 onto Lot 5178.*



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Response

The Respondents appreciate USEPA's willingness to consider addressing the southern portion of the Site (i.e., Parcels 3252, 3274, 3275, 3753, 4423, 4610, and 5178) as part of OU2, as originally contemplated in the ASAOC. The Respondents agree that where the steep embankment marking the southern edge of the disposal area extends onto Parcel 5178 (as shown approximately on the attached Figure 1), these portions of Parcel 5178 will be addressed as part of OU1.

USEPA Comment 1

*EPA agrees with, and appreciates, CRA's willingness to address some areas of shallow groundwater contamination at the Site using in-situ remedies. EPA agrees these efforts may help reduce the mass of shallow groundwater contaminants; may help reduce these areas from acting as a source to deep groundwater contamination; and may obviate the need for long-term groundwater containment.*

*However, we think that it is reasonable to request that the OU1 FS evaluate at least two active remedial alternatives (i.e., engineered technologies), in addition to the no-action alternative, and any other alternatives CRA would like to evaluate, to prevent shallow groundwater contaminants, at a minimum, from migrating beyond the central-southeast boundary of the Site.*

*As discussed more fully in our July 7, 2010, OU1 FS comments, during the streamlined RI, CRA detected elevated levels of TCE and/or vinyl chloride in shallow groundwater in MW-210 north along Dryden Road to VAS-15; and west of MW-210 to approximately MW-203. TCE was also detected in off-Site shallow groundwater above Maximum Contaminant Levels (MOLs) in VAS-25 and MW-213-VAS, approximately 200 to 300 feet from MW-210 in the general southward downgradient direction of the Site. It was also detected in soil gas at GP-09 at the Site boundary, 200 feet from a residence with a basement, 550 feet southwest of MW-210 and 350 feet south of MW-203. All this shows a wide area of groundwater that is impacted by Site contamination.*

*In our OUI FS comments we were trying to communicate that there is significant flexibility in the potential remedial alternatives CRA could evaluate to contain shallow groundwater in this area of the Site (approximately 1,300 linear feet). These include a variety of chemical, physical or biological technologies. Again, EPA is only requesting that CRA evaluate these alternatives in the FS. EPA will not select a final remedy for shallow OU1 groundwater until all shallow groundwater alternatives, including the no-action alternative, are evaluated in conjunction with EPA's nine evaluation criteria, in the OU1 Record of Decision (ROD).*

*Also, as EPA has continuously emphasized throughout the streamlined OU1 RI/FS process, EPA is willing to consider additional data collected by CRA during the remedial design (RO), if not sooner, to*



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*support a change in EPA's Proposed Plan or ROD, or as the basis for a ROD Amendment or Explanation of Significant Difference (ESD).*

Response

The Respondents would like to reiterate their position that the ASAO Statement of Work (SOW) agreed upon between USEPA and the Respondents requires that groundwater be addressed using a conventional RI/FS approach.

The concentrations of TCE in groundwater samples collected from MW-203 have consistently been less than the MCL for TCE. The concentrations of TCE in groundwater samples collected from monitoring wells and VAS borings upgradient of GP09-09 (i.e., MW-204, MW-203, VAS-17, SD002) and in the vicinity of GP09-09 (P-211, MW-209A, MW-209, MW-212 and VAS-22) are all below the MCL for TCE.

In addition, the soil gas samples collected from GP11-09, which is hydraulically upgradient from GP09-09 and less than 50 feet from MW-210, and GP10-09 and GP08-09, which are to the northwest and southwest of GP09-09, contained concentrations of TCE that were less than the OSWER draft screening criteria.

These data indicate that, contrary to USEPA's assertion, there is not a "wide area of groundwater that is impacted by Site contamination" in this area of the Site.

The groundwater samples collected from VAS-25 and MW-213-VAS that contained TCE at concentrations that were greater than the MCLs were collected from deeper groundwater. The uppermost groundwater samples from these locations did not contain detectable concentrations of TCE. These data indicate that there is no volatilization to indoor air risk from the TCE present in groundwater at these locations and, therefore, no immediate risk to residents of the trailer park.

During the meeting between the Respondents and USEPA on February 24, 2010, the USEPA expressed concern that contaminants might be migrating off Site near MW-210 and noted that there was a potable supply well at an industrial facility to the south of MW-210<sup>1</sup>. During the meeting, the Respondents proposed to submit an investigation work plan to determine whether contaminants present in groundwater samples collected from MW-210 were migrating off-Site and to confirm whether the groundwater extracted by the off-Site potable supply well was impacted by Site contaminants. The Respondents submitted a proposed work plan to USEPA on March 24, 2010. USEPA has not provided comments on or approval of the proposed work plan. During the June 28, 2010 meeting between the Respondents and USEPA, USEPA again

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<sup>1</sup> Respondents understand that USEPA has not collected samples from the well.



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expressed concern about the possible off-Site migration of contaminants in the vicinity of MW-210 and noted the urgency of investigating the issue. The Respondents reiterated their commitment to complete additional investigation in the vicinity of MW-210 and asked the USEPA to approve the work plan. The USEPA declined and deferred the MW-210 investigation to be completed as part of the OU2 RI.

The Respondents remain willing to complete additional investigation in the vicinity of MW-210, as set forth in the March 24, 2010 work plan. The data to be collected during the proposed investigation will determine whether on-Site containment of Upper Aquifer Zone groundwater is necessary to protect downgradient residents and workers. Had USEPA approved the work plan in a timely manner, the investigation could be complete and the appropriate data available to assess the appropriate remedial/containment options for shallow groundwater in the FS. The Respondents reiterate their request to be allowed to collect the data necessary to make an appropriate decision with respect to Upper Aquifer Zone groundwater. The additional data are required to determine whether Upper Aquifer Zone groundwater contaminants are migrating off-Site and to identify the source and migration pathway of contaminants that may be migrating off Site in Upper Aquifer Zone groundwater. These data should be collected during the OU2 investigation prior to evaluating the need for and appropriateness of long term groundwater remedies, including containment.

USEPA Comment 2

*We agree that any decision on the need for an active landfill gas collection system must be based on Site data available in the RI and/or FS. We based our request for the evaluation of at least one active LFG and soil vapor system for the Site on our understanding of the available data and Site conditions. Most importantly it was based on the fact that businesses are on top of the landfill and are currently at risk from being exposed to LFG and soil vapors, and will be at an even higher risk if the landfill is capped.*

*During CRA's streamlined RI, for example, TCE was detected at a maximum concentration of 56,000 ug/m3 in a shallow soil gas sample collected 50 feet from an occupied structure. Methane was also detected above the upper explosive limit of 15 percent in shallow soil gas near another on-Site structure. The methane concentration in this sample was 26 percent methane, by volume. See EPA's July 7, 2010, OU1 FS comments for a full discussion of soil gas contamination at the Site.*

*As explained in EPA's OU1 FS comments, we believe CRA did not collect sufficient data (e.g., systematic landfill gas sampling within 3 to 5 feet of the surface across the landfill, or subslab soil gas sampling at each on-Site structure, at multiple times of the year to evaluate any seasonal differences) to support modeling, and EPA did not approve the use of CRA's landfill gas sampling for modeling purposes (see Section 1.2.1 in the 2006 RI/FS SOW concerning modeling requirements). However, we are more than willing to work with you to develop a sampling plan that will adequately characterize the landfill gas issue.*



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*The City of Moraine and others have expressed a very strong interest in keeping the SDDL Site available for industrial use. As such, it is critical that any remedial action thoroughly protect potential receptors at the Site. This includes workers in buildings located on top of the landfill, as well as workers who may be exposed to vapors from VOC-contaminated shallow groundwater at the Site (e.g., the TCE concentration in groundwater in VAS-9 was 5,100 ug/L).*

*EPA agrees, however, that there is significant flexibility in the technologies that can be used to control LFG and soil vapors to protect current and future receptors at the Site. These may include, but are not limited to, passive venting, active venting, passive venting that can be easily converted to active venting, or a combination of technologies depending on current and potential land use (e.g., active venting in business areas; passive venting in other Site areas).*

*Again, the Agency cannot select a remedy for LFG and soil vapors until all potential alternatives to control LFG and soil vapor, including the no-action alternative, are evaluated in conjunction with EPA's nine evaluation criteria, in the OUI Record of Decision (ROD). Also, as EPA has continuously emphasized throughout the streamlined OUI RI/FS process, EPA is willing to consider additional data collected by CRA during the remedial design (RD), if not sooner, to support a change in EPA's Proposed Plan or ROD, or as the basis for a ROD Amendment or Explanation of Significant Difference (ESD) at the Site.*

Response

The Respondents note that landfill gas was not included as part of the Presumptive Remedy approach in the ASAO SOW but was intended to be addressed through a conventional RI/FS, including a baseline risk assessment (BRA).

The USEPA requested that the Respondents propose design alternatives in the FS that include an active landfill gas collection system. USEPA justified the need for these alternatives with a discussion of VOC concentrations in soil vapor.

USEPA stated that CRA did not complete systematic sampling within 3 to 5 ft of the landfill surface. CRA is not aware of any requirement in the Ohio Administrative Code (OAC) with respect to the need for systematic sampling in the upper 5 ft of soil/waste to determine the need for an active LFG extraction system.

The drivers in the OAC for the installation of an active LFG collection and control system are twofold. First, if the landfill is modeled to generate more than 50 tons per year of non-methane organic compounds (NMOC), then an active LFG collection system is required in accordance with OAC Chapter 3745-76. Second, as per OAC 3745-27-12, if measurements taken at a soil gas probe placed between the waste and a building located outside the limits of waste or an explosive gas meter placed within a building located above waste materials (or within 200 feet





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of the waste material) indicate that unacceptable levels of explosive gas are present<sup>2</sup>, contingency measures, which could include, among other measures, the installation of an active gas extraction system or passive gas venting system, must be implemented.<sup>3</sup>

In the FS, CRA modeled the NMOC generation rate for the landfill using the approach required under OAC 3745-76. CRA conservatively assumed that the landfill accepted putrescible waste up until the landfill ceased operation in 1996. The model predicted that the NMOC generation rate would be less than 2 tons per year, which is less than the 50 ton per year threshold in OAC 3745-76. Even assuming that all of the waste ever disposed of at the landfill was putrescible waste with the potential to generate methane, the hypothetical NMOC generation rate is only 45 tons per year.

The soil gas sample collected from a probe installed near the unused building on Parcel 5054 contained methane at a concentration greater than the LEL; however, as this soil gas probe is screened in the waste, the methane concentrations measured within the soil gas probe samples are indicative of methane generation rather than migration. In the FS, CRA proposed to conduct monitoring for landfill gas as part of the remedy. Such monitoring would necessarily include the installation of explosive gas meters within buildings located above the areas where municipal solid waste is present and any other areas where landfill gas generation/migration is a concern. The monitoring proposed in the FS would ultimately determine the need for an active landfill gas extraction system as a contingency measure in the event that unacceptable levels of methane are detected.

CRA notes that soil gas probes were installed as close as practical to Site buildings in accordance with the USEPA-approved Landfill Gas and Soil Vapor Investigation Letter Work Plan. With respect to VOC concentrations in soil vapor samples, CRA notes that the risk assessment completed by CRA did not identify any risks to on-Site workers from concentrations of VOCs in the soil vapor samples. The concentration of TCE in the soil vapor sample collected from GP20-09 was more than 50 times the OSWER draft soil gas criterion for TCE, which indicates that additional soil vapor sampling and potentially sub-slab sampling are warranted. The Respondents' FS proposed to complete the additional sampling.

The soil vapor sampling results do not trigger a requirement to install an active landfill gas collection system. Should additional sampling indicate a potential risk to occupants of any on- or off-Site building, the appropriate remedy is likely to be the installation of a sub-slab venting system or vapor barrier.

<sup>2</sup> Unacceptable levels would include a combustible gas concentration greater than 100 percent of the lower explosive limit (LEL) for methane in a soil gas probe or 25 percent of the LEL within a building.

<sup>3</sup> In a letter dated April 11, 1990, Ohio EPA informed the Site owner that based on the types of waste accepted at the landfill, the Site was "exempt from complying with the Ohio Administrative Code 3745-27-12."



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Finally, CRA reminds USEPA that the VAS samples collected from VAS-09 are screening samples and that groundwater samples collected from MW-215A, which was screened immediately above the uppermost till layer (the depth of the greatest contamination at VAS-09) and is located less than 10 feet from VAS-09, contained concentrations of TCE that were less than the MCL. The fully validated groundwater data for samples collected using low flow purging methods from permanent monitoring wells are the most appropriate data for assessing groundwater contamination.

The data collected to date in conjunction with the NMOC generation calculations completed in accordance with OAC 3745-76 are sufficient to demonstrate that an active LFG collection system is not required. Data from the future monitoring proposed in the FS and required in accordance with OAC 3745-12 will determine whether active or passive LFG venting is required in the future.

Additional data are required to determine whether vapor intrusion mitigation measures are required for individual on-Site buildings. These data should be collected during the OU2 investigation following completion of the groundwater investigation, which will identify areas of groundwater contamination that could potentially provide a source of VOCs in soil vapor.

USEPA Comment 3

*EPA appreciates CRA's willingness to evaluate a MatCon asphalt capping alternative in the OU1 FS. However, any capping alternatives evaluated in the FS, including a 4-inch thick layer of MatCon asphalt, must meet or exceed the OEPA municipal solid waste capping ARARs over the long term. At this point CRA has not provided information showing that the solid waste capping requirements are not ARARs, or the basis of a waiver of the requirements, but we are open to evaluating this information as part of the FS process. HELP model results could be the basis for an equivalency waiver under the NCP. We believe this is likely to be the only justification available by which this waiver could be approved. EPA will not be able to evaluate the effectiveness and equivalency of a 4-inch thick layer of MatCon asphalt until this demonstration is provided.*

*The MatCon Innovated Technology Report also indicates there are additional requirements for MatCon cover applications. These include:*

- 1     *The subgrade to receive the MatCon cover must be firm and unyielding to support compaction of the MatCon asphalt during construction.*
- 2     *The subgrade to receive the MatCon cover must have slopes of less than 3:1 (height:volume) for the safe use of compacting and paving equipment during installation.*



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- 3     *The subgrade to receive MatCon must have a slop [sic] of greater than 1.5 percent to facilitate drainage and minimize surface water ponding.*
- 4     *The subgrade must be constructed to a grading tolerance of plus or minus 0.5 inch.*
- 5     *Though heavy surface use on a MatCon cover is possible, heavy container stacking, extraordinarily heavy or repeated loads, sharp point source loading, misuse, or use of heavy tracked equipment might compromise its integrity. Such heavy surface uses must be accommodated through customized designs, formulations and construction methods. Site-specific operations and maintenance plans for each installation and the potential future surface uses will need to be prepared and reviewed by the MatCon company to confirm consistency with strict MatCon quality assurance procedures.*

*The OUI FS must also discuss how these requirements will be addressed at the Site based on the current and expected uses of each property to be covered with a MatCon cap.*

*EPA agrees that a variance will be required in areas where the slope will be less than the 5 percent slope required by OEPA ARARs. The minimum slope standard of 5 percent in Ohio Administrative Code (QAC) rule 3745-27-08 is a design standard. However, due to existing Site characteristics (e.g., age and sub-grade topography), we agree that a 5 percent slope at the SDDL Site may not be practicable. EPA and OEPA agree that an appropriate slope variance can be accommodated at the Site; however, we do not have the information to determine whether a variance is appropriate at this time.*

*The grade of the landfill cap is directly related to potential slope stability and surface drainage considerations. The OUI FS should explain how the various capping alternatives would be designed and constructed to accommodate the material being used, and to achieve and maintain positive drainage over the long-term. This may include the use of surface water control structures, such as ditches to control run-on and runoff, sedimentation pond(s), erosion control measures, and surface grading to achieve positive drainage and prevent water from ponding over areas where landfill materials are present. These surface water control structures, in conjunction with a stability analysis on the existing landfill materials, can then be used to form the basis for a variance to the minimum slope standard under OAC rule 3745-27-03(C) as part of the design process.*

**Response**

CRA has modeled the performance of an asphalt cap using the HELP model and determined that any asphalt cap would provide a reduction in permeability of greater than 99 percent, which is equivalent to an Ohio solid waste cap (i.e., as detailed in OAC 3745-27-08). The HELP model results for an asphalt cap were provided in the FS and will be modified to reflect the construction details of the MatCon cap in the revised FS.

The Respondents will work with USEPA and Ohio EPA to establish the most appropriate slope for the MatCon and Ohio solid waste caps during the remedial design (RD) process.



**CONESTOGA-ROVERS  
& ASSOCIATES**

September 17, 2010

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Reference No. 038443-89

USEPA Comment 4

*EPA will work with CRA as expeditiously as possible on the data quality objectives and the scope of the OU2 investigation, following the process and guidance for conducting a conventional RI/FS. This would include a quantitative human health risk assessment and baseline ecological risk assessment for these areas, and/or Site media, consistent with the 2006 RI/FS SOW. Since OU2 is separate from OU1, however, EPA does not agree that the OU1 FS process should be delayed any further, and requests that CRA proceed with the revised OU1 FS at this time.*

*EPA would like to caution CRA, however, that CRA is now proposing to characterize large areas of the Site that EPA proposed to evaluate as a presumptive remedy as a time and cost-saving measure. For quantitative risk assessment purposes this includes characterizing approximately 15 acres of heterogeneous landfill materials up to 35 feet thick in some areas, in the southern portion of the Site; and about 15 acres of surface water and sediment in the Quarry Pond, which is up to 35 feet deep in some areas, and the island in the Quarry Pond. A quantitative risk assessment will require GRA to address all media, all pathways, and all current and potential future receptors.*

*Shallow groundwater that is not being actively contained as part of an OU1 remedy, or that has not been previously fully characterized, will also need to be characterized around the perimeter of the landfill during RD, if not sooner. For the RD the work will need to determine the extent of a shallow groundwater containment system (if selected as part of the OU1 ROD), and/or to develop an appropriate monitoring network for long-term monitoring. This work would be in addition to any on-Site or off-Site work already required as part of OU2.*

*EPA understands that the additional work and investigation required to support a conventional RI/FS and a quantitative human health and ecological risk assessment can become very costly. However, EPA is willing to allow CRA the additional time to conduct this work, since, through this work, CRA may be able to demonstrate that these areas of the Site and/or media do not pose a risk to human health and the environment and would not require remedial action.*

Response

Given the disagreements that have developed after execution of the existing ASAOC, and USEPA's own words of "caution" concerning implementation of a conventional RI/FS in the southern parcel, the Respondents are reluctant to proceed with the submission of a revised OU1 FS without an agreed-upon scope for the OU2 RI/FS. The Respondents propose to submit the OU2 RI/FS Work Plan within 45 days of reaching agreement with USEPA on the above issues and believe that the OU2 RI/FS scope could be finalized within three to six months provided both sides work expeditiously in good faith (and the Respondents are confident all parties can and will do so). The Respondents feel that the resulting delay in the submission of the revised



**CONESTOGA-ROVERS  
& ASSOCIATES**

September 17, 2010

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OU1 FS is warranted in these circumstances, and will help the parties avoid future delays associated with potential disagreements over the scope of the OU2 RI/FS.<sup>4</sup>

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Stephen M. Quigley

AL/ca/92

Encl.

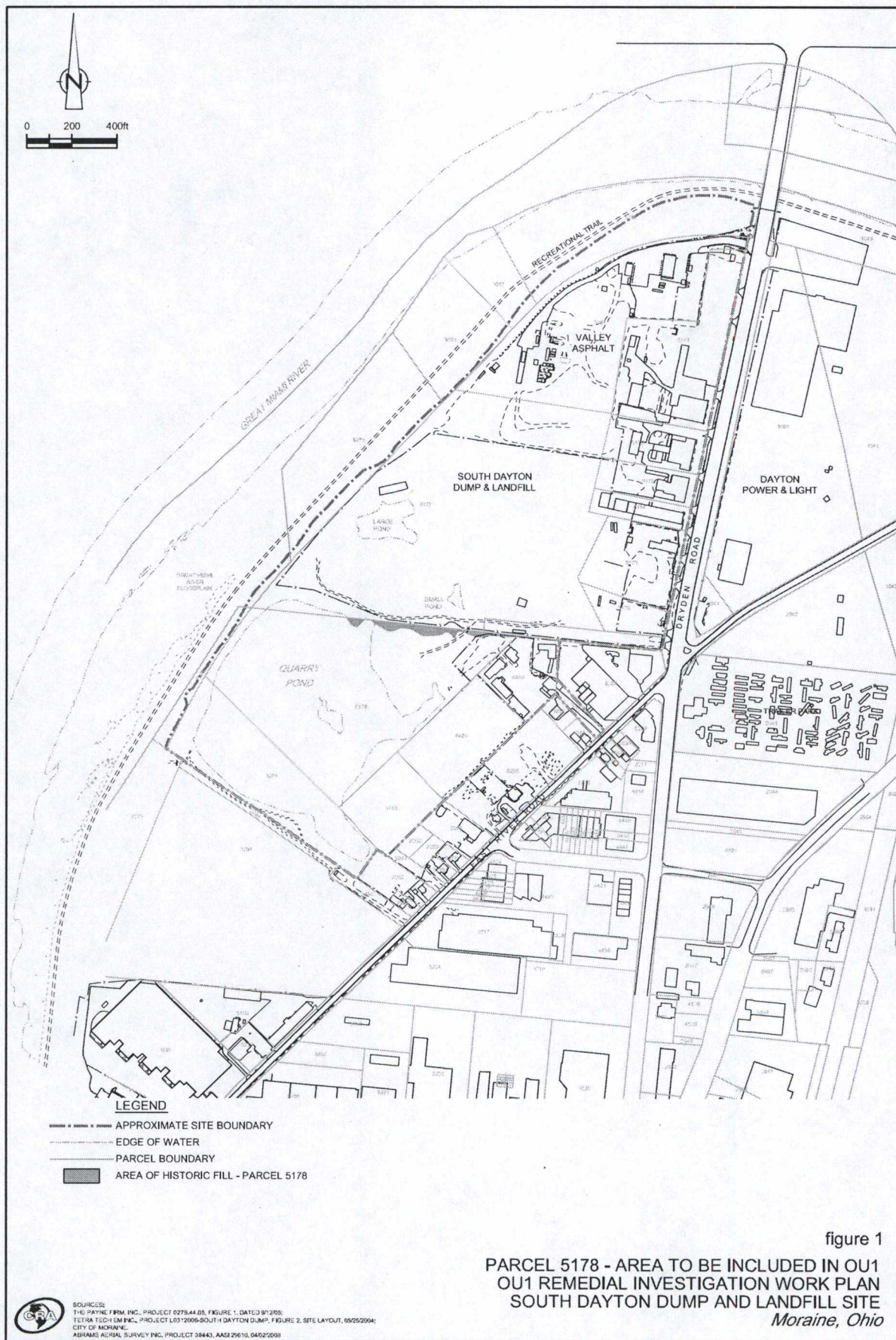
cc: Wendy Carney, EPA  
Tom Nash, EPA  
Matt Justice, Ohio EPA  
Ken Brown, ITW  
Jim Campbell, EMI  
Chris Athmer, Terran  
Karen Mignone, Verrill Dana  
Robin Lunn, Winston & Strawn  
Tim Hoffman, Dinsmore & Shohl

Tim Prendiville, EPA  
Larry Kyte, EPA  
Scott Blackhurst, Kelsey Hayes  
John Hartje, NCR  
Paul Jack, Castle Bay  
Kelly Smith, Terran  
Wray Blattner, Thompson Hine  
Kirk Marty, Shook, Hardy & Bacon  
Brock Wanless, ITW

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<sup>4</sup> The Respondents do not view three to six additional months as unreasonable given the importance of this subject and the fact that 19 years elapsed between the time of Ohio EPA's initial investigation of the Site in 1985, and USEPA proposing the Site for listing on the National Priorities List (NPL) in 2004.





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September 23, 2010

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## VIA EMAIL AND US MAIL

Thomas C. Nash, Esq.  
Office of the Regional Counsel  
Region V  
United States Environmental Protection  
Agency  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Mr. Nash:

I am writing on behalf of the performing Respondents for the South Dayton Dump and Landfill Site located in Moraine, Ohio (the Site). Respondents are the three viable parties which agreed to perform the work pursuant to the Administrative Settlement Agreement and Order on Consent (ASAOC). These parties are: Kelsey-Hayes, NCR and Illinois Tool Works Inc ("Respondents")<sup>1</sup>. As you may recall, other parties received notice letters, including Delphi Automotive, General Motors, Waste Management, and Dayton Power and Light. Neither Waste Management nor Dayton Power and Light agreed to execute the ASAOC despite significant, reliable nexus information linking them to the Site. Delphi did not because of its bankruptcy proceedings. General Motors, which did execute the ASAOC, subsequently filed for bankruptcy and thus is no longer a performing party.

The Respondents' technical consultant, Conestoga-Rovers & Associates, has sent a separate letter (attached) dated September 17, 2010, to Karen Cibulskis, the Remedial Project Manager for the Site setting forth our latest effort to find a compromise position that allows the parties to move forward cooperatively to complete the ASAOC work. Respondents believe that the opportunity remains for the Respondents and the EPA to work in good faith to reach a mutually agreeable path forward consistent with the ASAOC.

With that said, Respondents write separately to you to raise serious legal and equitable concerns regarding this Site. Those concerns are as follows:

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<sup>1</sup> Site owners Grillo and Boesch, also signatories to the ASAOC, made a contribution toward investigative cost, but are not participating further financially under an agreement with the remaining performing parties and EPA.



1. EPA's approach would violate the ASAOC;
2. EPA's approach would violate the National Contingency Plan and is not supported by the Administrative Record;
3. There is no data or newly discovered Site information that supports expansion of the presumptive remedy area under the "additional work" provisions of the ASAOC; and
4. EPA's dealings with the Respondents have lacked fundamental fairness, transparency and reasonableness.

Each of these concerns is discussed separately below.

#### **EPA's Approach Would Violate the ASAOC**

The Statement of Work (SOW), incorporated into the ASAOC, divides the Site into two parts for the purpose of remedy evaluation. Under the SOW, the central landfill area is to be addressed through the use of a presumptive remedy "... to address the potential risk from direct contact with the landfill contents ... Respondents and U.S. EPA agree that the presumptive remedy to address the direct contact risks in this area shall be containment (i.e. a landfill cap)." SOW (2006). For the remainder of the Site the SOW requires "... a conventional (i.e. not streamlined) RI/FS, risk assessment and ecological assessment consistent with the requirements of the SOW for all Site areas and/or media not addressed by the Presumptive Remedy approach above. . . . " *Id.* The SOW further states that "The *Respondents* may, at any time, propose to expand the area identified on Figure 3-1 based on data collected during the RI". *Id.* (emphasis added)

The SOW specifically identifies the work to be done as part of the conventional RI, including: investigation of landfill material outside the presumptive remedy direct contact area and landfill material, surface and subsurface soil and hot spots, groundwater, leachate, landfill gas, soil vapor, surface water and sediment *within and outside* the Presumptive Remedy Area. Thus, the ASAOC and SOW clearly limit the application of the presumptive remedy to the direct contact risks area in the central part of the landfill, and limit it solely to direct contact risk from landfilled materials. As part of its investigation, CRA determined that the risk area for direct contact extended beyond the central landfill area, and consistent with the requirements of the ASAOC, the Respondents proposed including the expanded area in the streamlined Operable Unit 1 Feasibility Study (OU1 FS) for purposes of capping.

EPA now is attempting go beyond the agreement in the ASAOC by applying the presumptive remedy to most of the Site and to other media, not just the direct contact area. This

is not what the EPA and the Respondents agreed to in the ASAOC, and there is nothing in the data that indicates that this is appropriate or warranted.

Respondents find themselves today, after significant work and spending over \$3,000,000, in the exact same position we were two years ago after the Respondents submitted their draft work plan for conducting the streamlined RI and FS for the Site under the ASAOC. EPA took a full year to review that draft and provided over 300 comments. During that year, EPA never contacted the Respondents or made any effort to negotiate, clarify or otherwise address or resolve the EPA issues with the work plan. In subsequent discussions, EPA through its RPM stated that in its opinion we could never submit a work plan it could approve. EPA made this statement without any effort to negotiate or otherwise work with Respondents to resolve differences. Regrettably, the Respondents did not realize it then but now can only conclude that the actual message from EPA was that it would not approve anything that did not support the application of a presumptive remedy to all media for nearly the entire Site despite the specific requirements in the ASAOC.

This belief is further supported by the fact that EPA refused to review Respondents' Risk Assessment (RA), and provided comments on the FS before reviewing the RI. EPA's response conveys its intent to continue on its course of forcing a Site-wide presumptive remedy in direct violation of the terms of the ASAOC, without data to establish that such a remedy is appropriate or warranted. This work is well beyond what the Respondents agreed to do for the streamlined RI/FS.

**EPA's Approach Would Violate the National Contingency Plan and Is Not Supported by the Administrative Record**

Throughout this process, EPA and Ohio EPA have selectively referenced historic information and Site data to support their view of the Site while consistently ignoring or dismissing substantial contrary information including data generated through the RI/FS process. One example is EPA's reliance on an undated tax map with hand drawn hash marks and the comment "fill area". It is unclear if this map was part of a permit application showing intended fill areas or some other document, but without context it is of little or no evidentiary value. In fact, confirmed Site investigative work demonstrate that there is no historic or data evidence to establish that putrescible or other municipal solid wastes were disposed of outside of the central 33 acres of the Site, except as already delineated in the streamlined RI/FS. In the early years of operation of the landfill, many of these terms did not have the same meaning as is now ascribed, and thus much of the historic information is subject to interpretation. Sample data have confirmed the location of the "landfill" area and Respondents have proposed additional sampling to further delineate this area. The Site operators were primarily interested in receiving materials that had salvage value or that were suitable for use as fill to bring the Site up to the surrounding grade and permit the construction of businesses, further supporting the belief that general household wastes were not typically disposed of at the Site.

Even if some of these wastes were disposed of at the Site, most everything that could not be salvaged was burned in the central portion of the landfill. Based on visual observations made during intrusive sampling activities at more than 120 individual locations across the Site, the visual identification of the types of waste present in each area corresponds well to the historical records and indicates that the majority of the material placed at the Site was inert fill, residual waste, and construction and demolition debris.

EPA is using the term "landfill materials" to describe virtually anything that is not native soil<sup>2</sup>, the implication being that any non-native materials or contaminants must be part of a MSW landfill and, therefore, subject to the presumptive remedy approach. For the reasons stated above, this position is unreasonable, unsupported, and is inconsistent with the terms the parties negotiated and memorialized in the ASAOC. Most of the fill material is localized in the northern parcels, which appear to have been filled prior to the mid-1950s. Further, the majority of the combustible material accepted at the Site was reportedly burned leaving mainly inert ash and non-combustible materials in the landfill. The non-combustible material that CRA observed in the test pits and boreholes installed during the RI consisted of tin cans, broken dishes, newspapers, and glass. The National Contingency Plan (NCP) requires EPA to evaluate data and risks against an established set of criteria to determine an appropriate remedy. It does not provide for remedy selection based on inference.

EPA selected aerial photos and interpreted them to support its contention that MSW material is spread over the entire Site. The Respondents' consultants reviewed the same aerials and have reached entirely different conclusions. Respondents performed a RA as required under the ASAOC. EPA refuses to comment on or acknowledge the RA, alleging it is based on insufficient data. EPA has not identified what additional data it requires or otherwise provided any substantive comments on the RA. Despite this, EPA has selected certain information from the RA to support expanding the presumptive remedy area well beyond the central portion of the landfill. Again, EPA is ignoring the preponderance of the data necessary to evaluate site risks and make a remedy decision.

The NCP requires the consideration of nine criteria when selecting a remedy for a Superfund site.<sup>3</sup> The NCP indicates a preference for remedies that "eliminate, reduce or control risks to human health and the environment." 40 CFR part 300.430(a). Furthermore, "EPA expects to use treatment to address the principal threats posed by a site, wherever practicable."

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<sup>2</sup> Note that much of the landfill came about as the result of gravel and sand mining operations, so there would be very little that could be described as "native" soils left in the central landfill portions of the Site.

<sup>3</sup> These criteria are: overall protection of human health and environment; compliance with applicable or relevant and appropriate requirements (ARARs); long-term effectiveness and permanence; reduction of toxicity, mobility or volume through treatment, short-term effectiveness; implementability; cost; state acceptance; and community acceptance. See 40 CFR part 300.

40 CFR part 300.430(a)(1)(A). The NCP also requires consideration of effectiveness of the remedy at reducing toxicity, mobility or volume through treatment; implementability, which requires consideration of technical feasibility; costs of construction and long term oversight and maintenance. "Costs that are grossly excessive compared to the overall effectiveness of alternatives may be considered as one of several factors used to eliminate alternatives". 40 CFR part 300.430(e)(7).

Extending the presumptive remedy beyond the direct contact risk area in the central portion of the landfill, and to other media, specifically groundwater, fails to meet the requirements of the NCP. The costs of groundwater containment at this Site would far outweigh any potential benefit, especially where it is unclear whether there is an associated risk from groundwater. Moreover, Respondents have expressed a willingness to investigate groundwater contamination source areas and if necessary address those areas through in-situ treatment prior to completing the remaining OU2 RI and FS. This approach has been rejected, and EPA has clearly expressed its preference for groundwater containment as part of the presumptive remedy in violation of the ASAOC and in contravention of the requirements of the NCP. In any event, a decision regarding the applicability or appropriateness of groundwater containment as a remedy is properly reserved until completion of the conventional RI/FS.

**There is no Data or Newly Discovered Site Information that Supports Expansion of the Presumptive Remedy Area Under the "additional work" Provisions of the ASAOC**

Respondents have discovered no significant Site risks (other than that which is reflected by the expanded direct contact area) that support requiring an expansion of the application of the presumptive remedy to other media and otherwise beyond that agreed to under the ASAOC. In fact, under the ASAOC, our OU1 investigation for the presumptive remedy should have been limited to determining the scope of the direct contact risk in the central portion of the Site. In an effort to cooperate with EPA, Respondents did perform investigation of other media including groundwater, landfill gas and vapor intrusion. We did this as a way to understand Site risks through the conventional RI/FS process, although in many cases, the results have been ignored or selectively culled to pull out nuggets to support EPA's skewed view of the Site.

Respondents are committed to the development of a Site remedy that is protective of human health and the environment and that is cost effective. This commitment is illustrated by our offer to perform additional groundwater investigation before the implementation of the OU2 RI/FS in response to a specific concern raised by EPA regarding results from one Site well. In contrast, EPA is using the results from this one well to attempt to bootstrap a costly and questionable presumptive remedy groundwater containment element as part of the selected remedy for the streamlined RI/FS. EPA's position is unsupported by the data, unreasonable based on Site conditions, and inappropriate under the ASAOC, especially in light of Respondents prompt and pro-active response to the EPA concerns regarding MW-210. MW-210, located near the boundary of the Site, had shallow groundwater results for trichloroethylene (TCE) at

concentrations greater than the MCL. During the February 24, 2010 meeting between the Respondents and EPA, EPA expressed concern that contaminants might be migrating off-Site near MW-210 and noted that there was a potable supply well at an industrial facility to the south of MW-210<sup>4</sup>.

In immediate response to that concern Respondents proposed to submit an investigation work plan to determine whether contaminants at MW-210 were migrating off-Site and to confirm whether the groundwater extracted by the off-Site potable supply well was impacted by Site contaminants. Respondents submitted a proposed work plan to EPA on March 24, 2010. EPA has not provided comments on or approval of the proposed work plan.

During the June 28, 2010, meeting between the Respondents and EPA, EPA reiterated its concern about the possible off-Site migration of contaminants in the vicinity of MW-210 and expressed urgency regarding the investigation of the issue. Respondents once again offered to perform additional investigation in the vicinity of MW-210 and asked the EPA to approve the previously submitted work plan. EPA again declined, and deferred the MW-210 investigation to the OU2 RI. Now, MW-210 is being used as a basis for EPA insisting that Respondents include a presumptive remedy groundwater containment remedy in the streamlined RI/FS.

**EPA's Dealings with the Respondents Have Lacked Fundamental Fairness, Transparency and Reasonableness**

Respondents have attempted to reach reasonable accommodations with EPA in the face of considerable inflexibility and refusal to even consider issues raised by Respondents. We come to this as a group that has significant CERCLA experience including the investigation and remediation of multiple Superfund sites. Our Site contractor is a large and experienced company that employs engineers and other specialists in data analysis, risk assessment, remedial investigation and the technology of site remedies and has performed work at over 165 NPL Sites. All three Respondents have voluntarily participated in site cleanups across the country, often under circumstances with similar, questionable nexus information. We have worked, and continue to work, very hard to implement the ASAOC. Our consultants and technical people have undertaken additional work to address various concerns raised by EPA, but have been rebuffed time and time again, and told that our work is inadequate or otherwise unacceptable.

This inexorable march toward a completely revised Site approach began early in the process. As the work demanded by EPA expanded, Respondents level of concern increased as it became clear that EPA intended to expand of the scope of the presumptive remedy area and include other media. Despite the severe misgivings of Respondents, we continued to fund work that was clearly beyond the scope of the streamlined RI/FS and that under the ASAOC was part

---

<sup>4</sup> The USEPA reportedly confirmed the presence of the potable supply well in October 2009 but, despite USEPA's concerns that the water produced by the potable supply well might be impacted by Site contaminants, did not collect samples from the supply well and did not advise the Respondents of USEPA's concerns until February 2010.

of the conventional RI/FS. As a group, Respondents felt it important to voice these concerns to EPA, and thus our consultants conveyed them in a letter to EPA. This letter, sent in April 17, 2008 to EPA (attached), outlined the issues and concerns arising from the intent to piggyback the entire Site into the presumptive remedy process through the use of the "additional work" provisions of the ASAOC. Respondents received no response to that letter.

There is little reliable nexus information linking the three participating Respondents to the Site. Moreover, recent case law is favorable to the Respondents regarding the ability to overcome the presumption of joint and several liability for the Site by establishing divisibility of harm by parties when allocating liability for site costs, which we believe is applicable here. Furthermore, this is a Site that operated for decades, (many years before any applicable state or federal regulations) and thus is primarily an orphan site. If there is any liability on the part of Respondents, it is an insignificant share when viewed in light of the overall operations of the landfill.

We continue to be interested in finding a resolution that allows us to perform the work required under the ASAOC without resorting to dispute resolution, or requiring EPA to pursue a litigated remedy; however, we have absolutely no confidence that such a resolution is possible in light of the history here.

We have the ability to identify, and EPA to select, a remedy that meets all the requirements of the NCP, including the preference for permanent reduction of hazardous constituents, that is protective of human health and the environment, that preserves the businesses at the Site and that is cost-effective. It is also clear that applying the presumptive remedy to the entire Site fails to meet these requirements.

We have demonstrated over the past 4 years our willingness to both cooperate and compromise, but we have not seen any tangible results from our efforts. We remain committed to performing our obligations, and request that EPA review the history of our involvement at this Site and the quality and suitability of the streamlined RI/FS submitted as it applies to the work we originally agreed to perform to address the direct contact risk in the central portion of the Site. We respectfully request that we be permitted to continue with our OU2 work plan development and investigation for all media and other areas of the Site.

As a group, the Respondents need to have confidence that these concerns will be addressed in a way that complies with the ASAOC and the requirements of CERCLA and the NCP. We are respectfully requesting that our submissions receive an appropriate technical review, and that EPA withdraw its comments on the FS that would force expansion of the presumptive remedy to more media and beyond the scope of the direct contact area. History shows us we cannot rely on assurances that our concerns will be addressed during remedial design and that if necessary an explanation of significant difference or Record of Decision

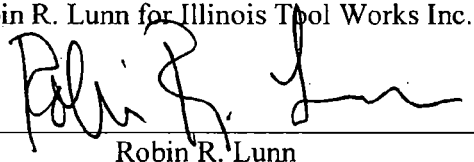
amendment will allow flexibility. In the years we have worked on this Site, we have seen no change in EPA's approach to manage this Site, despite what the data demonstrate. Thus, we respectfully request that EPA evaluate, using the appropriate standards and criteria, the streamlined FS as submitted, and allow us to scope our OU2 work plan.

The Respondents respectfully request that EPA review and respond to our alternative proposal set forth in the August 31, 2010 and the follow up September 17, 2010 CRA correspondence. In short, we are asking that EPA honor the terms of the ASAOC and permit the Respondents to address the Site under that agreement and consistent with the statute and the NCP.

Very truly yours,

Scott Blackhurst for Kelsey Hayes  
Wray Blattner for NCR  
Robin R. Lunn for Illinois Tool Works Inc.

By



Robin R. Lunn

RRL/dm

cc: Wendy Carney, EPA  
Matt Justice, Ohio EPA  
Ken Brown, ITW  
Jim Campbell, EMI  
Chris Athmer, Terran  
Karen Mignone, Verrill Dana  
Tim Hoffman, Dinsmore & Shohl  
Kirk Marty, Shook, Hardy & Bacon  
Karen Cibulskis, EPA

Tim Prendiville, EPA  
Larry Kyte, EPA  
Scott Blackhurst, Kelsey Hayes  
John Hartje, NCR  
Paul Jack, Castle Bay  
Kelly Smith, Terran  
Wray Blattner, Thompson Hine  
Brock Wanless, ITW





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SENT VIA EMAIL

October 5, 2010

Mr. Steve Quigley, P.E.  
Principal-in-Charge/Project Manager  
Conestoga-Rovers & Associates Ltd. (CRA)  
651 Colby Drive  
Waterloo, Ontario N2V1C2

RE: Operable Unit 1 (OU1) Feasibility Study for the  
South Dayton Dump and Landfill (SDDL) Site, Moraine, Ohio

Dear Mr. Quigley:

Thank you for your September 17, 2010, letter concerning the OU1 FS for the SDDL Site in Moraine, Ohio.

It is encouraging to note that we agree on some of the issues that were raised in your previous letters. As you noted, we agree that CRA may defer the southern portion of the Site to OU2, and conduct a conventional (i.e., non-streamlined) Remedial Investigation (RI) and Feasibility Study (FS) for this area. This is consistent with the agreement in the 2006 Statement of Work (SOW). Proceeding with the OU1 work will address a major portion of the threat posed by the landfill source area, and still allow CRA to investigate options for the southern parcels.

We are also pleased to see that we are in agreement that the MatCon capping alternative can be accommodated in the OU1 FS and that the sloping requirements can be addressed in the Remedial Design, providing alternatives that will accommodate the operating businesses on the Site.

However, as we explained during our August 18, 2010, meeting and in our September 10, 2010, letter, we cannot agree to CRA's other proposals and conditions for submitting the revised OU1 FS. Additional details concerning our response to CRA's

proposals and conditions can be found in our July 7, 2010, OU1 FS comments, our September 10, 2010, letter and Attachment 1 to this letter.

In our September 10, 2010, letter, we granted CRA a three-week extension to submit the revised OU1 FS to EPA. The revised OU1 FS, addressing our July 7, 2010, comments, was due on September 24, 2010. As of this letter, EPA has not received the revised OU1 FS.

The revised OU1 FS is now 10 days late. We are now in the unfortunate position of having to consider whether you are out of compliance with the Administrative Settlement Agreement and Order on Consent (ASAOC), and whether EPA needs to start evaluating our other options for completing the OU1 FS. However, if the revised OU1 FS is submitted to us by COB, October 22, 2010, we would look upon this favorably in our assessment.

In addition, based on CRA's 2008-2010 investigations, and, in our OU1 FS comments, we indicated that a vapor intrusion investigation needs to be conducted to determine if there is an immediate need to vent buildings currently on top of the landfill, or to vent off-Site residences and businesses that may be located over the shallow VOC groundwater plume. EPA has not received a response to this request, other than an indication that additional soil gas samples will be collected near GP-20, and that a shallow off-Site groundwater investigation would be conducted as part of OU2.

EPA believes, however, that this is an extremely urgent matter that cannot wait, since there are current businesses and residences on and adjacent to the Site who may be at risk. Therefore, consistent with Section IX, Work to Be Performed, Paragraph 37(c) of the ASAOC, we respectfully request that CRA provide us with a work plan (and field sampling plan and quality assurance project plan addenda) for a vapor intrusion investigation at all on-Site buildings, and adjacent residences and businesses that may be over the shallow VOC groundwater plume, within 30 days of receipt of this letter.

The planning documents should be developed following EPA's data quality objectives process, and relevant vapor intrusion guidance. Consistent with Paragraph 37(d), we also request that you confirm your willingness to perform this additional Work, in writing, within seven days of your receipt of this request.

EPA does not believe that the vapor intrusion study should delay submission of the revised OU1 FS. EPA believes it has the flexibility within the Superfund process to consider the results of the study, as appropriate, as the remedy selection process proceeds for OU1. In addition, EPA has the ability to modify a selected remedy, should a modification be warranted, through a Record of Decision amendment or an Explanation of Significant Difference, as appropriate.

If you have any questions or would like to discuss these issues or discuss the SDDL Site further, please contact me at 312-886-1843 or via email at

cibulskis.karen@epa.gov. Legal questions should be directed to EPA attorney Tom Nash, at 312-886-0552 or via email at nash.thomas@epa.gov.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karen Cibulskis".

Karen Cibulskis  
Remedial Project Manager

cc: Tim Prendiville, SR-6J  
Tom Nash, C-14J  
Luanne Vanderpool, SRF-5J  
Mark Allen, OEPA  
Matt Justice, OEPA  
Brett Fishwild, CH2M  
Ken Brown, ITW  
Adam Loney, CRA

**ATTACHMENT 1 TO EPA's OCTOBER 4, 2010 LETTER**  
**Additional Details and Response to CRA's Conditions and Proposals**

Issue 1: *CRA believes the ASAOC does not allow EPA to require a presumptive remedy approach on shallow groundwater and landfill gas; only for the waste materials in the central portion of the Site.*

EPA Response to Issue 1: Page 1 of the SOW to the ASAOC does say, "...the Respondents shall use a presumptive remedy approach consistent with U.S. EPA guidance...to address the potential risk from direct contact with the landfill contents in the central portion of the Site." However, further flexibility in the application of the presumptive remedy approach is made available in Task 6 of the SOW:

*Consistent with the Presumptive Remedy Guidance, remedial alternatives to contain and address the direct contact risk from the landfill materials in the Presumptive Remedy Area, and to address other Site areas and/or media in which the risk assessment (streamlined or conventional) indicates that remedial action is clearly warranted and that a presumptive remedy approach is appropriate (emphasis added) shall be described in the Alternatives Screening Technical Memorandum and will be given detailed analysis in the FS Report.*

CRA was provided with ample opportunity throughout this process, to complete a conventional RI/FS on the landfill material and other media, including landfill gas and groundwater. However, CRA was unable to provide EPA with work plans that would meet the fundamental objectives of a conventional RI/FS. We made it clear in our comments on the various letter work plans that the data gathered would not be suitable to complete a conventional RI or FS, but could be used in a streamlined RI/FS.

Nonetheless, CRA wished to proceed with data gathering for your own purposes and chose not address EPA's concerns. EPA was subsequently able to use that data to develop a streamlined risk assessment. The data CRA gathered and the streamlined risk assessments developed from that data support a presumptive remedy approach to the risks posed by landfill gas and shallow groundwater, as well as those risks arising from direct contact with landfill contents.

We believe it is in the best interest to use the information at hand, via the presumptive remedy approach, rather than wait six months to a year to complete studies that will inevitably confirm what we already know; that shallow groundwater and landfill gas pose an unacceptable risk.

***Issue 2: CRA disagrees with EPA's request to evaluate at least two active remedial alternatives (i.e., engineered technologies), in addition to the no-action alternative and any other alternatives CRA would like to evaluate in the OU1 FS, to prevent shallow groundwater contaminants, at a minimum, from migrating beyond the central-southeast boundary of the Site.***

***EPA Response to Issue 2:*** The 2006 SOW requires a conventional RI/FS, risk assessment and ecological assessment consistent with the requirements of the SOW for all Site areas and/or media not addressed by the presumptive remedy approach agreed to in the SOW; and in all Site areas and/or media where the Respondents have not clearly indicated there is a basis for remedial action and that a presumptive remedy approach is appropriate.

CRA had several opportunities to conduct a more thorough investigation to characterize the nature and extent of the groundwater contamination at the Site boundary more fully during the OU1 RI/FS. This work could have included additional vertical aquifer sampling (VAS) work and monitoring well installations. However, CRA did not conduct this work.

CRA's limited investigations to characterize the landfill material, groundwater and soil gas at the Site (given the size and the complexity of the Site) is, however, consistent with EPA guidance for presumptive remedy landfill sites. As such, EPA approved CRA's work plans for these investigations, since any further refinement of the exact extent of contamination to be remediated could be conducted during remedial design.

As we explained in our OU1 FS comments, CRA's 2008-2010 data cannot be used to support a quantitative human health and ecological risk assessment for the Site. However, consistent with EPA guidance, the data can be used to support a streamlined risk assessment for the Site. We provided CRA with a streamlined risk assessment for each set of landfill parcels grouped by CRA in our July 7, 2010, OU1 FS comments. Our streamlined risk assessments show, that, at a minimum, the OU1 FS should evaluate remedial alternatives to contain shallow groundwater at the central-southeast boundary of the Site.

We believe that our request to evaluate these alternatives for shallow groundwater is consistent with Task 6 of the SOW, *Development and Screening of Alternatives*. This task requires CRA to develop and screen:

***...remedial alternatives to contain and address the direct contact risk from the landfill materials in the Presumptive Remedy Area and to address other Site areas and/or media in which the risk assessment (streamlined or conventional) indicates that remedial action is clearly warranted and that a Presumptive Remedy approach is appropriate.***

Based on CRA's 2008-2010 investigations and our streamlined risk assessment, we believe it is appropriate for the OU1 FS to evaluate remedial alternatives to contain shallow groundwater, through chemical, physical or biological processes, at the general southward downgradient boundary of the Site, from approximately:

- VAS-15 (trichloroethene or TCE 18 ug/L) south along Dryden Road to MW-210 (TCE 260 ug/L in groundwater in MW-210 and 1,200 ug/m<sup>3</sup> in soil gas at GP-12; and 3.2 to 12 ug/L in off-Site VAS-24, VAS-25 and MW-213-VAS); and,
- West of MW-210 to approximately MW-203 (vinyl chloride 1.6 to 3.2 ug/L with low TCE in MW-203; and TCE 2,000 ug/m<sup>3</sup> in soil gas in GP-9 south of MW-203, 200 feet from a residence with a basement).

While CRA did some sampling of the landfill material, CRA did not conduct a complete source area investigation at the Site. However, the limited sampling showed TCE and/or other hazardous chlorinated solvents were present in landfill materials in 16 out of 28 test pit/test trench sampling locations at the Site, including: TP-2, TP-3, TP-4, TP-5, TP-6, TT-5, TT-7, TT-8, TT-9, TT-10, TT-11, TT-12, TT-20, TT-21, TT-23 and TT-23.

CRA did not determine the full nature and extent of this contamination; however, at nine locations, these hazardous substances were detected at concentrations above non-conservative soil criteria for groundwater protection based on maximum contaminant levels (MCLs), a cancer risk of 10<sup>-4</sup> or a noncancer hazard index (HI)=1, and a dilution attenuation factor of 10: TP-3, TT-7, TT-8, TT-9, TT-19, TT-20, TT-21, TT-22 and TT-23 (see Table 1).

TCE and/or other chlorinated solvents were also detected in a composite sample from five drums removed from an excavation at Valley Asphalt (TCE 64,000 ug/Kg); at high levels in shallow groundwater samples collected from VAS-9 (TCE 5,100 ug/L; cis-1,2-DCE 3,900 ug/L and vinyl chloride 760 ug/L); and in soil gas samples collected from 20 out of 21 gas probes at the Site (all soil gas probes except GP-7). These data, in addition to the groundwater data, indicate additional areas where TCE and/or other chlorinated solvents are present.

Consistent with EPA policy, groundwater that is a current or potential source of drinking water that exceeds risk-based standards (e.g., MCLs) or poses an unacceptable risk generally warrants remedial action under the Comprehensive Environmental Response, Compensation and Liability Act [see Office of Solid Waste and Emergency Response (OSWER) Directive 9283.1-33, *Summary of Key Existing EPA CERCLA Policies for Groundwater Restoration*, June 26, 2009]. The landfill materials at the SDDL Site extend into the Great Miami Valley Sole Source Aquifer, and the landfill is located within a secondary wellhead protection area. Well records also indicate there are two

residential wells and 5 commercial/industrial wells located within 500 to 1,500 feet of the general downgradient direction of the Site.

The National Contingency Plan establishes EPA's expectations for groundwater contamination. They are to contain contaminated groundwater beneath a waste management area when waste is left in place (e.g., at a landfill) to prevent groundwater contaminants from migrating further; and to return usable groundwater outside a waste management area to its beneficial use (e.g., as a current or potential water supply), wherever practicable, within a reasonable time frame for the site.

We agree that additional characterization would be needed during remedial design, or could be conducted sooner, to determine the actual configuration for a groundwater containment system; and to collect data to use in developing a long-term monitoring plan for the Site, especially in areas at the OU1 Site boundary outside a groundwater containment area. We will also consider this data, as appropriate, as support for a change in our OU1 proposed plan or record of decision (ROD), or as the basis of a ROD amendment or an explanation of significant difference (ESD) at the Site.

As explained in our OU1 FS comments, we cannot approve CRA's MW-210 work plan for a groundwater investigation at the Site boundary. The membrane interface probe (MIP) CRA is proposing to use for this work is more useful for a non-aqueous phase or source area investigation. This is because the lowest detection limit the MIP can attain for chlorinated solvents is 200 ug/L. This detection limit is 40 times greater than the MCL (i.e., the action level) for TCE of 5 ug/L, and 100 times greater than the MCL and  $1 \times 10^{-4}$  risk based concentration for vinyl chloride, which is 2 ug/L.

Unfortunately, the MIP's detection of limit of 200 ug/L for chlorinated solvents will not meet the data quality objectives a Site boundary investigation will require. Also, the MIP will not detect arsenic or lead, which are present at high levels in landfill materials and unfiltered groundwater samples at the Site, but have not been fully characterized along the Site boundary; or semivolatile organic compounds and polychlorinated biphenyls, which are also present in landfill materials and on-Site groundwater, including groundwater at the Site boundary.

We are willing to work with CRA as expeditiously as possible on more appropriate sampling methods and procedures for a Site boundary investigation, consistent with the data quality objectives this work will require. This work, however, should not delay the OU1 FS.

Consistent with EPA guidance, we still request that the OU1 FS evaluate at least two active remedial alternatives to contain shallow groundwater in the central-southeast area of the Site (approximately 1,300 linear feet). There is, however, significant flexibility in the potential remedial alternatives CRA could evaluate to contain the



shallow groundwater. These include a variety of chemical, physical and biological technologies. Again, we are only requesting that CRA evaluate these alternatives in the FS. EPA will not select a final remedy for shallow OU1 groundwater until all shallow groundwater alternatives, including the no-action alternative, are evaluated in conjunction with EPA's nine evaluation criteria, in the OU1 ROD.

*Issue 3: CRA disagrees with EPA's request to evaluate an active landfill gas (LFG) and soil vapor system for the Site in the OU1 FS.*

EPA Response to Issue 3: The SOW requires a conventional RI/FS, risk assessment and ecological assessment consistent with the requirements of the SOW for all Site areas and/or media not addressed by the presumptive remedy approach agreed to in the SOW; and in all Site areas and/or media where the Respondents have not clearly indicated there is a basis for remedial action and that a presumptive remedy approach is appropriate.

CRA had several opportunities to conduct a more thorough investigation to more fully characterize the nature and extent of LFG and soil vapor contamination at the Site during the OU1 RI/FS. This work could have included indoor air and subslab soil gas sampling in all on-Site structures, at multiple times of the year to determine any seasonal effects, for quantitative risk assessment purposes. However, CRA did not conduct this work.

CRA's limited investigations to characterize LFG and soil vapor, and to characterize landfill materials and groundwater as a potential source of LFG and soil vapor (given the size and the complexity of the Site), is, however, consistent with EPA guidance for presumptive remedy landfill sites. As such, we approved CRA's work plans for the 2008-2010 investigations, since any further refinement of the exact extent of LFG and soil gas contamination to be remediated could be conducted during the remedial design. Any capping alternative, however, will also have to account for increased risks to workers in on-Site buildings once the landfill is capped, since the low permeability cover material will trap volatilized contaminants and cause chemical concentrations in soil gas and indoor air to increase.

As we explained in our OU1 FS comments, CRA's risk assessment for on-Site worker exposure to soil gas is not supportable because CRA conducted a limited soil gas investigation, then averaged chemical concentrations from different exposure areas at the Site to calculate one, Site-wide risk. This is not appropriate, because, for example, workers at Valley Asphalt are only exposed to contaminants at Valley Asphalt. Lesser contaminant concentrations, near the Quarry Pond, for instance, would not be relevant.

There is also additional uncertainty, because, at about half of the sampling locations, CRA did not screen the soil gas probes within three to five feet of the surface in areas

where landfill materials were present consistent with the approved work plan. As a result, the actual chemical concentration of soil gas contaminants in landfill materials closer to receptors at these locations is uncertain, and could be higher as the soil gas passes up through additional waste material.

Consistent with EPA guidance, CRA's 2008-2010 data can be used to support a streamlined risk assessment for the Site. The streamlined risk assessments we provided to CRA in our July 7, 2010, OU1 FS comments show there are high levels of methane in soil gas adjacent to some of the on-Site buildings:

- 26 percent by volume adjacent to a building in GP-18 (above the upper explosive limit or UEL of 15 percent);
- As high as 68, 86 and 96 percent of the lower explosive limit (LEL) adjacent to three other buildings in GP-13, GP-15 and GP-16 (the LEL is 5 percent); and
- 34 percent of the LEL adjacent to another building in GP-17.

Methane is also present above the UEL at two other on-Site locations (as high as 20 and 28 percent methane in GP-1 and GP-2), and is above the LEL at another location (as high as 7.9 percent methane GP-4/GP-21).

Our screening risk assessment shows that soil gas adjacent to three of these on-Site buildings, and 50 feet from a fourth building, also contains high levels of volatile organic compounds above  $1 \times 10^{-4}$  and/or HI=1 industrial risk-based levels. These risk-based levels were calculated using EPA's Regional Screening Levels for industrial indoor air, adjusted by a dilution attenuation factor of 10, consistent with the method used in the OSWER Vapor Intrusion Guidance. Our screening risk assessment indicates the soil gas concentrations adjacent to these buildings correspond to the following industrial risk levels:

GP-18: 14,000 ug/m<sup>3</sup> benzene (cancer risk =  $8 \times 10^{-4}$ ; HI=10); 980 ug/m<sup>3</sup> naphthalene (cancer risk =  $2.7 \times 10^{-4}$ ; HI = 7); and 4,800 ug/m<sup>3</sup> vinyl chloride (cancer risk =  $1.7 \times 10^{-4}$ ; HI=1.1).

GP-20: 16,000 to 56,000 ug/m<sup>3</sup> TCE (cancer risk  $2.6 \times 10^{-4}$  to  $9 \times 10^{-4}$ )

GP-15: 14,000 ug/m<sup>3</sup> vinyl chloride (cancer risk =  $5 \times 10^{-4}$ ; HI=3)

GP-13: 6,8000 ug/m<sup>3</sup> vinyl chloride (cancer risk =  $2.4 \times 10^{-4}$ ; HI=1.5)

In our OU1 FS comments, we indicated that CRA should conduct a vapor intrusion investigation to determine if there is an immediate need to vent on-Site buildings on top of the landfill, or to vent off-Site residences that may be located over the shallow VOC groundwater plume. CRA has not responded to this request, other than to indicate that

CRA will collect additional soil gas samples near GP-20, and conduct a shallow off-Site groundwater investigation as part of OU2.

We believe, however, that this is an extremely urgent matter that cannot wait, since there are current receptors on and adjacent to the Site who may be at risk. Therefore, in our October 5, 2010, letter, we are requesting that CRA provide us with a work plan (and field sampling plan and quality assurance project plan addenda) for a vapor intrusion investigation at all on-Site buildings, and adjacent residences and businesses that may be over the shallow VOC groundwater plume, within 30 days of receipt of this letter. The planning documents should be developed following EPA's data quality objectives process, and relevant vapor intrusion guidance.

This vapor intrusion study should not delay the OU1 FS. Also, we will consider the results of the study, as appropriate, as support for a change in our OU1 proposed plan or ROD, or as a ROD amendment or explanation of significant difference.

Consistent with EPA guidance, we still request that the OU1 FS evaluate at least one active LFG and vapor control system for the Site. There is however, significant flexibility in the technologies that can be used to control LFG and soil vapors to protect current and future receptors at the Site. These may include, but are not limited to, passive venting, active venting, passive venting that can be easily converted to active venting, or a combination of technologies depending on current and potential land use (e.g., active venting in business areas; passive venting in other Site areas).

We don't think you would disagree that some venting of landfill gas is likely to be necessary as part of the remedy. Our request was only that an active gas venting system be considered in the FS. We would envision that an alternative could be considered that included a passive venting system, along with continued monitoring, and the option to switch to an active system if data show the necessity. In any event, to effectively design a cap on any portion of the Site, and to avoid unnecessary intrusion into the cap later, it seems prudent to consider a venting system now as part of the capping alternatives.

The City of Moraine and others have expressed a very strong interest in keeping the SDDL Site available for industrial use. Therefore, it is critical that any remedial action thoroughly protect potential receptors at the Site. However, EPA cannot select a remedy for LFG and soil vapors until all potential alternatives to control LFG and soil vapor, including the no-action alternative, are evaluated in conjunction with EPA's nine evaluation criteria, in the OU1 ROD.

***Issue 4: CRA will not submit the revised OU1 FS to EPA until EPA approves the OU2 RI/FS Work Plan, which will be submitted within 45 days of reaching agreement with***

*EPA on the issues in CRA's September 17, 2010 letter, and could be finalized within three to six months.*

EPA Response to Issue 4: We will work with CRA as expeditiously as possible on the Work Plan for the OU2 investigation, following the process and guidance for conducting a conventional RI/FS. This will include a quantitative human health risk assessment and baseline ecological risk assessment for all OU2 areas and media, consistent with the 2006 SOW.

We still believe that it is in the best interest of everyone that a cooperative solution is reached on all of these issue. However, in lieu of such an agreement, we respectfully request that, pursuant to the 2006 ASAOC, CRA submit the revised OU1 FS, which was due September 24, 2010, to us at this time. We also believe that completing the vapor intrusion study is of extremely high importance and must be completed expeditiously. Again, we request that a work plan for the vapor intrusion study be submitted within 30 days of receipt of this letter. We believe that proceeding with this schedule is in the best interest of the public, including those living or operating businesses on or near the landfill.

Since OU2 is separate from OU1, we do not agree that the OU1 FS process should be delayed any further, and the due date for the revised OU1 FS remains September 24, 2010.

TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TP-2	TP-3	TP-3	TP-3
		Sample ID:		S-38443-092408-KMV-006	S-38443-092408-KMV-008	S-38443-092408-KMV-009	S-38443-092408-KMV-011
		Sample Date:		9/24/2008	9/24/2008	9/24/2008	9/24/2008
		Sample Depth:		5 ft BGS	8.7 ft BGS	10.4 ft BGS	16 ft BGS
		Regional Screening Level					
		MCL DAF=10	10-4 Risk DAF=10				
Parameter	Units						
<b><u>Volatile Organic Compounds</u></b>							
1,1,1-Trichloroethane	µg/kg	701	32,000	2.1 J			18000 U
1,1-Dichloroethane	µg/kg		687			220 J	18000 U
1,1-Dichloroethene	µg/kg	25.1	1,200				18000 U
Benzene	µg/kg	25.6	211		23 J	21 J	18000 U
cis-1,2-Dichloroethene	µg/kg	206	1,070				18000 U
Tetrachloroethene	µg/kg	22	49.2			25 J	18000 U
trans-1,2-Dichloroethene	µg/kg	294	314				18000 U
Trichloroethene	µg/kg	17.9	717				18000 U
Vinyl chloride	µg/kg	6.9	5.58				18000 U
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer risk or hazard index >1.0 with DAF=10							

TABLE 1

Page 2 of 10

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TP-4	TP-5	TP-5	TP-6
		Sample ID:		S-38443-092408-KMV-014	S-38443-100608-KMV-055	S-38443-100608-KMV-056	S-38443-100608-KMV-058
		Sample Date:		9/24/2008	10/6/2008	10/6/2008	10/6/2008
		Sample Depth:		18.6 ft BGS	12 ft BGS	17 ft BGS	20 ft BGS
		Regional Screening Level					
		MCL DAF=10	10-4 Risk DAF=10				
Parameter	Units						
<u><b>Volatile Organic Compounds</b></u>							
1,1,1-Trichloroethane	µg/kg	701	32,000				
1,1-Dichloroethane	µg/kg		687	1.0 J			
1,1-Dichloroethene	µg/kg	25.1	1,200				
Benzene	µg/kg	25.6	211		260 J	0.67 J	0.36 J
cis-1,2-Dichloroethene	µg/kg	206	1,070				1.7 J
Tetrachloroethene	µg/kg	22	49.2				
trans-1,2-Dichloroethene	µg/kg	294	314				0.53 J
Trichloroethene	µg/kg	17.9	717		16 J		0.68 J
Vinyl chloride	µg/kg	6.9	5.58				0.58 J
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer							

TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-5	TT-5	TT-5
		Sample ID:		S-38443-093008-KMV-029	S-38443-093008-KMV-030	S-38443-093008-KMV-031
		Sample Date:		9/30/2008	9/30/2008	9/30/2008
		Sample Depth:		3 ft BGS	7 ft BGS	14 ft BGS
		Regional Screening Level				
		MCL DAF=10	10-4 Risk DAF=10			
Parameter	Units					
<b><u>Volatile Organic Compounds</u></b>						
1,1,1-Trichloroethane	µg/kg	701	32,000			
1,1-Dichloroethane	µg/kg		687			
1,1-Dichloroethene	µg/kg	25.1	1,200			
Benzene	µg/kg	25.6	211			
cis-1,2-Dichloroethene	µg/kg	206	1,070			
Tetrachloroethene	µg/kg	22	49.2		4.5 J	20 J
trans-1,2-Dichloroethene	µg/kg	294	314			
Trichloroethene	µg/kg	17.9	717	1.0 J	4.9 J	9.7
Vinyl chloride	µg/kg	6.9	5.58			
NOTES:						
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10						
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer						

TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-5	TT-5	TT-7
		Sample ID:		S-38443-093008-KMV-031-D	S-38443-093008-KMV-032	S-38443-100708-KMV-061
		Sample Date:		9/30/2008	9/30/2008	10/7/2008
		Sample Depth:		14 ft BGS	17 ft BGS	6 ft BGS
		Regional Screening Level				
		MCL DAF=10	10-4 Risk DAF=10	Duplicate		
Parameter	Units					
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	µg/kg	701	32,000			1800 U
1,1-Dichloroethane	µg/kg		687			1800 U
1,1-Dichloroethene	µg/kg	25.1	1,200			1800 U
Benzene	µg/kg	25.6	211			1800 U
cis-1,2-Dichloroethene	µg/kg	206	1,070		0.62 J	1800 U
Tetrachloroethene	µg/kg	22.	49.2	1.9 J		1800 U
trans-1,2-Dichloroethene	µg/kg	294	314			1800 U
Trichloroethene	µg/kg	17.9	717	3.3 J	1.7 J	1800 U
Vinyl chloride	µg/kg	6.9	5.58			1800 U
NOTES:						
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10						
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer						



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-7	TT-8	TT-8
		Sample ID:		S-38443-100708-KMV-063	S-38443-100608-KMV-050	S-38443-100608-KMV-050-D
		Sample Date:		10/7/2008	10/6/2008	10/6/2008
		Sample Depth:		16 ft BGS	4 ft BGS	4 ft BGS
		Regional Screening Level				
		MCL DAF=10	10-4 Risk DAF=10			Duplicate
Parameter	Units					
<b><u>Volatile Organic Compounds</u></b>						
1,1,1-Trichloroethane	µg/kg	701	32,000			
1,1-Dichloroethane	µg/kg		687		5.0 J	36 J
1,1-Dichloroethene	µg/kg	25.1	1,200		0.89 J	4.6 J
Benzene	µg/kg	25.6	211	94 J	1.3 J	2.0 J
cis-1,2-Dichloroethene	µg/kg	206	1,070	20 J	4.5 J	21 J
Tetrachloroethene	µg/kg	22	49.2			
trans-1,2-Dichloroethene	µg/kg	294	314			
Trichloroethene	µg/kg	17.9	717	240 J	6.7	5.3 J
Vinyl chloride	µg/kg	6.9	5.58		5.5 J	54 J
NOTES:						
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10						
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer r						



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

			Sample Location:	TT-8	TT-9	TT-9	TT-9
			Sample ID:	S-38443-100608-KMV-051	S-38443-100308-KMV-047	S-38443-100308-KMV-048	S-38443-100308-KMV-049
			Sample Date:	10/6/2008	10/3/2008	10/3/2008	10/3/2008
			Sample Depth:	15 ft BGS	7 ft BGS	17 ft BGS	22 ft BGS
		Regional Screening Level					
		MCL DAF=10	10-4 Risk DAF=10				
Parameter	Units						
<u>Volatile Organic Compounds</u>							
1,1,1-Trichloroethane	µg/kg	701	32,000				
1,1-Dichloroethane	µg/kg		687	1.1 J	240 J	46 J	
1,1-Dichloroethene	µg/kg	25.1	1,200				
Benzene	µg/kg	25.6	211		150 J	130 J	
cis-1,2-Dichloroethene	µg/kg	206	1,070	0.63 J	890	590 J	330 J
Tetrachloroethene	µg/kg	22	49.2				
trans-1,2-Dichloroethene	µg/kg	294	314				
Trichloroethene	µg/kg	17.9	717		350 J	670 J	420 J
Vinyl chloride	µg/kg	6.9	5.58		220 J	180 J	
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer r							

TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

			Sample Location:	TT-10	TT-10	TT-11	TT-12
			Sample ID:	S-38443-100308-KMV-045	S-38443-100308-KMV-046	S-38443-100208-KMV-043	S-38443-100208-KMV-040
			Sample Date:	10/3/2008	10/3/2008	10/2/2008	10/2/2008
			Sample Depth:	10 ft BGS	15 ft BGS	21 ft BGS	21 ft BGS
			Regional Screening Level				
			MCL DAF=10	10-4 Risk DAF=10			
Parameter	Units						
<b>Volatile Organic Compounds</b>							
1,1,1-Trichloroethane	µg/kg	701	32,000				
1,1-Dichloroethane	µg/kg		687				
1,1-Dichloroethene	µg/kg	25.1	1,200				
Benzene	µg/kg	25.6	211				
cis-1,2-Dichloroethene	µg/kg	206	1,070				0.30 J
Tetrachloroethene	µg/kg	22	49.2	4.8 J	4.7 J		
trans-1,2-Dichloroethene	µg/kg	294	314				
Trichloroethene	µg/kg	17.9	717			10	1.1 J
Vinyl chloride	µg/kg	6.9	5.58				
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer risk							



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-18	TT-19	TT-20
		Sample ID:		S-38443-100108-KMV-036	S-38443-100708-KMV-059	S-38443-100708-KMV-065-D
		Sample Date:		10/1/2008	10/7/2008	10/7/2008
		Sample Depth:		5 ft BGS	7 ft BGS	7 ft BGS
		Regional Screening Level				
		MCL DAF=10	10-4 Risk DAF=10			
Parameter	Units					
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	µg/kg	701	32,000	R	2.7 J	
1,1-Dichloroethane	µg/kg		687	R		
1,1-Dichloroethene	µg/kg	25.1	1,200	R		
Benzene	µg/kg	25.6	211	R	1.0 J	
cis-1,2-Dichloroethene	µg/kg	206	1,070	R		
Tetrachloroethene	µg/kg	22	49.2	R	1.6 J	2500 J
trans-1,2-Dichloroethene	µg/kg	294	314	R		
Trichloroethene	µg/kg	17.9	717	R	29	60 J
Vinyl chloride	µg/kg	6.9	5.58	R		
NOTES:						
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10						
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer r						



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

			Sample Location:	TT-20	TT-21	TT-21	TT-21
			Sample ID:	S-38443-100708-KMV-064	S-38443-100808-KMV-070	S-38443-100808-KMV-068	S-38443-100808-KMV-069
			Sample Date:	10/7/2008	10/8/2008	10/8/2008	10/8/2008
			Sample Depth:	15 ft BGS	7 ft BGS	8 ft BGS	21 ft BGS
		Regional Screening Level					
		MCL DAF=10	10-4 Risk DAF=10				
Parameter	Units						
<u>Volatile Organic Compounds</u>							
1,1,1-Trichloroethane	µg/kg	701	32,000		11000 U		
1,1-Dichloroethane	µg/kg		687		11000 U		
1,1-Dichloroethene	µg/kg	25.1	1,200		11000 U		
Benzene	µg/kg	25.6	211		12000	210 J	360 J
cis-1,2-Dichloroethene	µg/kg	206	1,070		11000 U	690	1400
Tetrachloroethene	µg/kg	22	49.2	57	11000 U		
trans-1,2-Dichloroethene	µg/kg	294	314		11000 U	56 J	130 J
Trichloroethene	µg/kg	17.9	717		11000 U	400	790 J
Vinyl chloride	µg/kg	6.9	5.58		11000 U	130 J	490 J
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer r							



TABLE 1

SUMMARY OF ANALYTICAL SOIL RESULTS  
2008 TEST PIT / TEST TRENCH INVESTIGATION  
SOUTH DAYTON DUMP AND LANDFILL  
MORaine, OHIO

		Sample Location:		TT-22	TT-22	TT-23	TT-23
		Sample ID:		S-38443-100808-KMV-066	S-38443-100808-KMV-067	S-38443-100608-KMV-052	S-38443-100608-KMV-053
		Sample Date:		10/8/2008	10/8/2008	10/6/2008	10/6/2008
		Sample Depth:		6 ft BGS	21 ft BGS	7 ft BGS	18 ft BGS
		Regional Screening Level					
		MCL DAF=10	10-4 Risk DAF=10				
Parameter	Units						
<b>Volatile Organic Compounds</b>							
1,1,1-Trichloroethane	µg/kg	701	32,000				
1,1-Dichloroethane	µg/kg		687		66 J		
1,1-Dichloroethene	µg/kg	25.1	1,200				
Benzene	µg/kg	25.6	211	530 J	290 J		
cis-1,2-Dichloroethene	µg/kg	206	1,070	150 J		16	
Tetrachloroethene	µg/kg	22	49.2				
trans-1,2-Dichloroethene	µg/kg	294	314				
Trichloroethene	µg/kg	17.9	717			31	0.62 J
Vinyl chloride	µg/kg	6.9	5.58		61 J		
NOTES:							
Red bold values indicate concentration greater than soil levels for groundwater protection at MCL with DAF=10							
Yellow highlighted values indicate concentration greater than soil levels for groundwater protection at 10-4 cancer							